

# **Instrumental music teaching with dyslexic students: An action research project**

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## **Abstract**

The complexities of dyslexia can create challenges for music educators and their dyslexic students. Although there is a substantial body of dyslexia research related to literacy remediation, there is limited research concerning instrumental music teaching and dyslexia. Much of the existing information is deficit-based, focuses on skill discrepancies and highlights limitations. There is little understanding of the value of relationships between parent-teacher-student, exploration of the perspectives of dyslexic music students or consideration of how their strengths might be identified and utilised in the lesson context.

The purpose of this thesis is to improve and enhance instrumental music teaching for dyslexic students. Cycles of action research were informed by a review of the literature and a survey investigating the perceptions of music exams amongst dyslexic students. Data collection also included semi-structured interviews with students, parents and teachers in addition to reflective observations with two case studies in the context of my piano teaching practice. Data from an evaluative focus group brought insights from the wider inclusive music education perspective.

Thematic analysis of the data suggests that there are a number of barriers in music education for dyslexic students and their families across ecological systems and highlights the need for high-quality pedagogical training for teachers. A shift from a deficit-focused approach to an individually tailored strengths-focused approach has potential benefits for the teacher and parent perspectives as well as promoting the student's self-confidence and reducing anxiety in the learning environment. The findings led to the development of an innovative risk-resilience framework for a better understanding of how to support dyslexic learners in the music education context. Analysis of the data also underpins the creation of a teacher knowledge and practice standards framework to form the basis of a future teacher training programme.

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But this I call to mind; therefore, I have hope. It is because of the Lord's loving kindnesses that we are not consumed, because His compassions never fail. They are new every morning; great and beyond measure is Your faithfulness. Lamentations 3:21-23

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The summary table from the International Dyslexia Association's Knowledge and Practice Standards for Teachers of Reading (Table 11.1 in Chapter 11) has been included under the UK fair dealing copyright exception for the purposes of examination.

## **Author's declaration**

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for a degree or other qualification at this University or elsewhere. All sources are acknowledged as references. This work received approval from the University of York Arts and Humanities Ethics Committee.

# Chapter 1 INTRODUCTION

## *1.1 Introduction*

This thesis presents the findings from an action research project with two case studies in the context of my piano teaching practice, informed by literature and data collected from a questionnaire, interviews with teachers, parents and dyslexic students, analysis of reflective observations from my piano teaching as well as an evaluative focus group. Despite ongoing debates regarding the definition of dyslexia (Elliot & Grigorenko, 2014; Kirby, 2020), a rise in social media groups with an emphasis on dyslexia, and the existence of a number of organisations (British Dyslexia Association<sup>1</sup>, Helen Arkell Trust<sup>2</sup>, Made by Dyslexia<sup>3</sup>, PATOSS<sup>4</sup>), it seems remarkable that research evidence to provide a better understanding of music education for dyslexic students is still quite limited.

In this chapter, the context (1.2), research aims and questions (1.3), an outline of the thesis (1.4) and an overview of each chapter (1.5) are presented.

## *1.2 Context*

Dyslexia is characterised as a learning disorder (WHO, 1993; DSM-5, 2013). Depending on the criteria used, the prevalence of dyslexia is believed to be around 10% of the general population (BDA, 2024; Wagner et al., 2020). The most common disadvantage is demonstrated in literacy skills (Reid, 2016), but research has shown that dyslexia may involve difficulties relating to speech, writing abilities, mathematical abilities, motor coordination, visuospatial and attentional abilities (Habib, 2021). Dyslexic children showed impairment in executive functions, such as planning, organising and working memory (Akyurek & Bumin, 2019). Secondary traits of dyslexics include low self-esteem and poor self-concept (Livingston et al., 2018; Ridsdale, 2005) potentially leading to what is known as a state of 'learned helplessness' (Peterson et al., 1993, p. 8).

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<sup>1</sup> <https://www.bdadyslexia.org.uk/>

<sup>2</sup> <https://helenarkell.org.uk/>

<sup>3</sup> <https://www.madebydyslexia.org/>

<sup>4</sup> <https://www.patoss-dyslexia.org/>

Learning to play a musical instrument is a complex undertaking which uses a network of neurological processes. Music involves features which are concrete and abstract: pitch, timbre, dynamics and rhythm. Furthermore, the visual analysis of a music score initiates activation in a global neural network of attention and memory whilst task-specific networks enable a musician to separate and analyse distinct elements in the music (Baeck, 2002; Stenberg & Cross, 2019; Tallal & Gaab, 2006). Using this information to inform limbic, motor and sensory systems, the brain coordinates movement with emotional response, concentration and discipline (Bresin & Friberg, 2011; Gudmundsdottir, 2010; Jäncke, 2008). Whilst reading a music score, the brain is required to recognise and process patterns, to anticipate and manage time intervals, to rank and to select which information is most relevant (Gudmundsdottir, 2010; Fournier et al., 2019; Wristen, 2005).

Practising the instrument involves focused attention, understanding musical symbols and the ability to keep sequences in the working memory (Couvignou & Kolinsky, 2021; Kim-Boyle, 2017; Williamon, 2012). These skills normally become automatic through practising (Schlaug et al., 2005; Stewart, 2008) but a dyslexic student<sup>5</sup> may require more time for these skills to become automatic. A difficulty with dyscalculia, or numbers, may affect the understanding of rhythm values and fingering numbers (Oglethorpe, 2008). Executive functions, affected in dyslexic students, are necessary for successful consolidation of information in music learning, but also for practical aspects such as remembering music books and time management. With so many of these skills corresponding to the processing difficulties associated with dyslexia, students and instrumental music teachers may find the experience challenging.

Musical activities have been employed by researchers as an intervention aimed at improving literacy skills (Cancer & Antonietti, 2022; Cogo-Moreira et al., 2013; Flaugnacco et al., 2015; Habib et al., 2016; Overy, 2003). Music learning has the potential to assist dyslexic students with global cognitive development, in addition to being a gratifying space to create and perform music (Habib, 2021). Recent research has suggested that dyslexic individuals might have a number of strengths connected with creativity (Cancer et al., 2016; Gobbo, 2020;

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<sup>5</sup> There is some debate between using the term 'dyslexic students' as opposed to 'students with dyslexia' related to identity versus person constructs of disability. For the sake of consistency, the term 'dyslexic students' is used in this thesis.

Jantzen, 2009; Schneps et al., 2012), reasoning abilities (Eide & Eide, 2011) and entrepreneurial skills (Logan, 2009). Adaptable teaching methods and greater awareness among teachers may allow dyslexic students to enjoy their educational experiences and may enhance their motivation to engage in more self-directed learning (Reid, 2016; Rolka & Silverman, 2015).

The British Dyslexia Association<sup>6</sup> provides a handbook (Daunt, 2012) and printable resources on their website. Currently, there are two main texts which support further understanding: *Instrumental music for dyslexics: A teaching handbook* (Oglethorpe, 2008) and *Music and dyslexia: A positive approach* (Miles et al., 2008), as well as a small number of journal articles (Flach et al., 2016; Ganschow et al., 1994; Heikkila & Knight, 2012; Hubicki & Miles, 1991; Jaarsma et al., 1998; Macmillan, 2004; Morrow, 2023; Nelson & Hourigan, 2016; Reifinger, 2019; Vance, 2004). In 2019, the Associated Board of Royal Schools of Music printed a booklet of teaching strategies and information for music teachers entitled 'Making music accessible' (ABRSM, 2019). However, there is more to be explored and understood about dyslexic students and their views on the music learning process including their experiences of graded music exams. Further investigation is needed on the perceptions of instrumental music teachers as to how they acquire knowledge about dyslexia, develop their teaching approaches for dyslexic students, prepare students for graded music exams and cultivate relationships with dyslexic students and their parents. The area of strengths has been addressed from the dyslexic musicians' perspective (Ganschow et al., 1994; Nelson & Hourigan, 2016) and from teachers' observations (Hubicki & Miles, 1991; Oglethorpe, 2008), but there is scope to understand more about these strengths from multiple perspectives (parent/teacher/student) and to consider how they might be utilised in the learning process to encourage the student. The importance of parental involvement has been noted (Oglethorpe, 2008), but there is a need for greater awareness related to parents' needs, how they might support their dyslexic child and factors that promote positive collaboration with the teacher.

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<sup>6</sup> <https://www.bdadyslexia.org.uk/advice/children/music-and-dyslexia>

### *1.3 Research aim and research questions for this study*

In light of a lack of research evidence contributing to an understanding of music education for dyslexic students, relevant teaching strategies and approaches and the interactions of the roles of parent, teacher and student, the aim of this research was to improve and enhance instrumental music education for dyslexic students through contributing to a body of research-informed knowledge which could support instrumental teachers. The following research questions (RQs) were articulated:

1. What are the perceptions of music teachers regarding their experiences and utilisation of pedagogical practices, including strategies, methods and material, in teaching dyslexic students?
2. Do adjustments and accommodations which music exam boards allow offer dyslexic students unbiased inclusion? What are the perspectives of teachers and students on this topic?
3. Do teachers, parents and students perceive dyslexic students to have specific strengths? How might these strengths be utilised in the music lesson context?
4. What are dyslexic students' perceptions of their music learning experiences? How might their voices be nurtured and amplified in the pedagogical process?
5. What are the teacher, student and parental perceptions of the pedagogical process and roles in the music lesson context? How can these roles collaborate to collectively enable positive outcomes?

### *1.4 Outline of the thesis*

This thesis consists of twelve chapters and seven reflective statements. Cycles of research were flexible and iterative representing the spiral nature of action research (Kemmis & McTaggart, 1988). In order to achieve a cohesive and clear structure, reflective statements are interspersed with the main chapters, thereby providing evidence of how the findings were embedded in and impacted my teaching practice. The reflective statements are also designed to give context to my experiences as a teacher (RS 1-3), but also to describe transitions which characterised my development (RS 4-7). The following outline of this thesis is composed of three main sections and depicts how chapters are paired with reflective statements.

## **Part 1: Introduction, Reflective Statements 1-2 and Methodology**

- Chapter 1: Introduction to the thesis
- Chapter 2: Literature review
  - **Research Statement 1: Presenting the researcher**
  - **Research Statement 2: Presenting the students**
- Chapter 3: Methodology of the research
- Chapter 4: Positionality of the researcher
- Chapter 5: Initial survey of dyslexic students' experiences of music exams

## **Part 2: Findings and Reflective Statements 3-7**

- Chapter 6: Teacher perceptions of barriers and challenges
  - **Reflective Statement 3: Understanding the barriers and challenges encountered by the researcher**
- Chapter 7: Teacher perceptions of dyslexic students' challenges and strategies
  - **Reflective Statement 4: Understanding power and knowledge dynamics between teacher and student**
  - **Reflective Statement 5: Developing tacit knowledge as a teacher**
- Chapter 8: Teacher perceptions of dyslexic students' strengths
  - **Reflective Statement 6: Developing a strengths-focused approach**
- Chapter 9: Findings from student interviews
- Chapter 10: Findings from parent interviews
  - **Reflective Statement 9: Developing empathic understanding**

## **Part 3: Discussion and Conclusion**

- Chapter 11: Discussion of the findings
- Chapter 12: Summary, limitations and conclusion

## *1.5 An expanded overview of each chapter*

The following section expands on the previous outline by offering a more detailed description of each chapter.

**Chapter 1** discusses the context and rationale for beginning the research, as well as the aims and research questions.

**Chapter 2** reviews literature related to music and dyslexia, including an overview of inclusive music education in the UK, the challenges faced by dyslexic students in learning music, strategies advocated by researchers and practitioners as well as an analysis of existing pedagogical materials.

**Reflective Statement 1** addresses the motivations and challenges experienced during the research related to the nature of investigating my own teaching practice as well as challenges associated with the Covid-19 pandemic and introduces Bronfenbrenner's (1979) ecological systems theory to evidence my development through the course of the research.

**Reflective Statement 2** introduces Bronfenbrenner and Morris' (2006) bioecological model which focuses on the person, place, context and time (PPCT) and explains the importance of proximal processes to drive development. An introduction to the students in my teaching practice, the teaching environment and context of our lessons follows.

**Chapter 3** provides information on the research design, including the theoretical framework of social constructivism and the methodology of action research, methods of data collection, data analysis procedures, validity and reliability of the research and ethical issues.

**Chapter 4** discusses the role of the researcher, considering the positionality of being an insider-researcher as well as the challenges and ethical issues which arise from that role.

**Chapter 5** reports data analyses from a questionnaire investigating dyslexic students' perceptions of graded music exams, the results of which informed the semi-structured interviews with teachers and students.



**Chapter 6** discusses the findings from teacher interviews with themes of barriers and challenges experienced in their teaching of dyslexic students.

**Reflective Statement 3** presents my reflections on the themes of ‘challenges’ and ‘barriers’, which arose from the teacher interviews, in light of my own teaching experiences and how they provided motivation for this research.

**Chapter 7** presents findings from teacher interviews with themes of student challenges observed by teachers and corresponding strategies used by the teachers. The following reflective statements (RS 4 and RS 5) correspond to these findings and give evidence of the researcher’s observations of student challenges and the decisions made regarding strategy use in their teaching practice, as well as reflecting on other themes such as teaching approaches, lesson planning, motivation and students’ self-regulated learning.

**Reflective Statement 4** describes my transition from a master-apprentice paradigm to a new paradigm in which I reconsider the balance of power and knowledge between teacher and student. I reflect on the impact of this changing dynamic on the students’ development of metacognitive skills and their motivation.

**Reflective Statement 5** consists of the analysis of the framework of Universal Design for Learning (CAST, 2018) used in conjunction with strategies identified by researchers and practitioners to inform my lesson planning, and the growth in my understanding of the role of tacit knowledge in my teaching practice.

**Chapter 8** presents the findings from teachers’ perceptions of dyslexic students’ strengths with implications for how they might be utilised in the teaching process.

**Reflective Statement 6** addresses the researcher’s transition from a deficit perspective of dyslexia to a strengths-focused approach. Also discussed in this statement is the rationale for this approach as well as practical implications for teaching and the student.

**Chapter 9** presents the findings from parental perspectives and discusses implications for teachers and parents.

**Chapter 10** reports analyses of findings from student perspectives, including their experiences, challenges, strategies, strengths and ways they envision change in future music education.

**Reflective Statement 7** presents my development in considering the role of empathic understanding with students and their families, as well as reflections on the importance of knowing how to prevent compassion fatigue as a teacher.

**Chapter 11** discusses analyses of the findings overall against the backdrop of the research questions and relevant literature, leading to the creation of two tools: an innovative risk-resilience model for musical training with dyslexic students and an adapted Knowledge and Practice Standards document to provide the foundation for a training course for teachers.

**Chapter 12** provides a summary of the study, the limitations of this research, implications for practice and recommendations for future research.

The thesis concludes with a reference list and appendices.

## **Chapter 2 LITERATURE REVIEW**

### *2.1 Introduction*

This chapter begins by describing the context and role of the researcher (2.2) and discusses the definitions (2.3.1), underlying causes (2.3.2) co-occurring conditions (2.3.3), secondary characteristics (2.3.4) and support factors (2.3.5). This is followed by an overview of music and dyslexia research with a focus on the use of music as an intervention (2.4), analysis of music teaching and dyslexia materials (2.5 and 2.6) and accessible teaching practices (2.7). Finally, the research questions are identified (2.8).

### *2.2 Context and role of researcher*

This research has emerged from my experiences as a piano teacher working with students of all ages, both with and without dyslexia, in York, UK. I found my initial attempts to work with dyslexic students disheartening. Assumptions made based on past learning and teaching experiences meant that I experienced frustration when teaching dyslexic students. Becoming more aware of the complexities and co-occurring conditions of dyslexia, my professional and personal interest developed, leading to my pursuit of doctoral research on the topic.

My contribution to this research was as an active participant within my roles as teacher and researcher: the teacher in the instrumental lessons, designer of the research project, analyser of relevant data and collator of results. I found teaching piano lessons rewarding and discovered that building a relationship with students who differ vastly in terms of personality, interest and capability is a unique privilege.

One teaching example propelling my interest in the research topic is as follows: a student did not progress at a level which corresponded to her peers. Significant difficulty in locating notes and coordinating hands, memory issues, struggles differentiating between left and right and a fragile self-concept were the key indicators I observed. We tried many approaches based on knowledge gained through my time as a student and my experience of teaching, but they were not successful. While the student's reading and writing skills appeared average for her age (9 years old), I learned that she had never learned to ride a bike or participate in sports which seemed to suggest that she may have coordination

difficulties. I wondered if she was practising sufficiently, but also considered that I might not be equipped to teach her well.

Research suggests that parental involvement is key to positive results in instrumental learning (Creech & Hallam, 2003; Macmillan, 2004) with Creech and Hallam (2003) describing the communication process between parents, teachers and students as 'circular' in nature (p. 39). A discussion with my student's mother provided some confirmation that specific learning difficulties might be involved. As I later came to learn, a substantial number of characteristics pointed to dyslexia, and to dyspraxia, suggested by poor motor coordination. At that point, I lacked an understanding of how adaptive teaching strategies might improve the learning experience and outcomes for this student. The analogy I found most constructive for viewing the situation from the student's perspective was when I compared it to my own experiences of moving to a new country where I did not speak the language. Although I wanted to communicate, my attempts to do so were met with frustration until I learned the new language or unless people knew mine. I imagined that my student might feel the frustration of being approached during piano lessons with strategies that were like a 'new language' for her.

Developing a better understanding of how to teach this student was a primary motivating factor for embarking on an MA in Music Education: Instrumental and Vocal Teaching at the University of York in 2016. I undertook the course requirements: producing lesson commentaries, essays and analysis of my video-recorded piano lessons. I was challenged by discussions with my supervisor Dr Elizabeth Haddon and through reviewing the academic literature on the topic. This enabled a pivotal shift in my understanding of the key factors of engaging in reflective practice and focusing on the student's voice in the learning process. As I gained experience, continued to analyse my recorded lessons and incorporated feedback from others, I began to develop as a 'reflective practitioner' (Schön, 1992) and continued to encounter obstacles which increased my curiosity about how to improve my teaching with dyslexic students. I realised there was more scope to research the interactions between student and teacher and to consider the role of parents within the pedagogical process. From a personal and professional point of view, my interest in the topic was stimulated. However, whilst there was a substantial amount of information about the use of music as an intervention to improve literacy, there was a limited amount of available

literature on instrumental music teaching and this was the motivation behind beginning this research project as my doctoral research.

This literature review begins with a discussion of how dyslexia is defined, the socio-emotional impact of dyslexia and support factors (2.3). Following this, the connections between music and language are considered (2.4), including studies on the use of music training to transfer positive benefits to language and literacy domains, with a focus on recent research in this area. Pedagogical materials and research pertaining to music teaching for dyslexic students are then presented (2.5 and 2.6) and areas for further research are considered. There is a brief overview of inclusive music teaching and access to provision (2.7). Finally, the research questions for this research are discussed in light of the material which has been reviewed (2.8).

### *2.3 Dyslexia: Definition and characteristics*

The following sections discuss the definitions (2.3.1), underlying causes and implications for education (2.3.2), co-occurring conditions (2.3.3), secondary characteristics (2.3.4), and intrinsic and extrinsic support factors (2.3.5) including the strengths associated with dyslexia (2.3.5.3).

#### **2.3.1 Defining dyslexia**

Dyslexia is a complex condition to define, but resulting implications for research, education and government policy are immense. This section explores diverse definitions of dyslexia and considers their implications. Depending on the criteria used, the prevalence of dyslexia ranges from 3-7% (Rutter et al., 2004, Snowling & Melby-Lervåg, 2016; Wagner, 2020) and 17-21% (Ferrer et al., 2015) of the English-speaking population. The breadth of variability in the characteristics and degrees to which dyslexia presents mean that a high proportion of dyslexics may not be identified (Shaywitz & Shaywitz, 2005).

Although the first definition mentioned uses the term 'disability', due to the negative connotations, the use of the word 'condition' is recommended. The following definition of dyslexia is widely recognised:

Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include difficulties in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge. (Lyon et al., 2003, p. 2)

In 2009, the UK government commissioned an independent report, *Identifying and Teaching Children and Young People with Dyslexia and Literacy Difficulties* (Rose, 2009), which resulted in a number of recommendations for teacher training and specialist support for dyslexic students. In the Rose Report (2009), the definition of dyslexia includes the addition of co-occurring difficulties:

Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling. Characteristic features of dyslexia are difficulties in phonological awareness, verbal memory and verbal processing speed. Dyslexia occurs across the range of intellectual abilities. It is best thought of as a continuum, not a distinct category, and there are no clear cut-off points. Co-occurring difficulties may be seen in aspects of language, motor coordination, mental calculation, concentration and personal organisation, but these are not, by themselves, markers of dyslexia. A good indication of the severity and persistence of dyslexic difficulties can be gained by examining how the individual responds or has responded to well-founded intervention. (Rose, 2009, p.11)

The British Dyslexia Association utilises the Rose report definition on their website but adds the following:

In addition to these characteristics, the British Dyslexia Association acknowledges the visual and auditory processing difficulties that some individuals with dyslexia can experience, and points out that dyslexic readers can show a combination of abilities and difficulties that affect the learning process. Some also have strengths in other

areas, such as design, problem solving, creative skills, interactive skills and oral skills.  
(BDA, 2024)

Without assessment and diagnosis, adequate care provision plans may be delayed and students may not receive reasonable adjustments and accommodations shown in many cases to improve outcomes for them. Some researchers believe that the assessment process and labelling individuals as 'dyslexic' is unnecessary and may create disadvantages for individuals from low socio-economic situations, suggesting instead that teacher training and specific responses to intervention would be more helpful for students struggling to read (Elliott & Grigorenko, 2014; Gibbs & Elliott, 2020). At the time this thesis was being written, a new definition of dyslexia was in the process of being drafted from a Delphi study to clarify areas of confusion and provide a new framework for assessment (Snowling & Hulme, 2024).

### **2.3.2 Underlying causes**

A number of theories have arisen to explain the causes of dyslexia and these will be briefly discussed using a causal modelling framework which takes into account biological, cognitive and behavioural factors as well as environmental factors influencing dyslexia at each of the first three levels (Frith, 2002). How dyslexia is conceptualised and understood has implications for educational practice and there is agreement that both practitioners and researchers must collaborate on evidence-based approaches so that interventions and remediations might be improved (Hulme et al, 2015; Snowling & Hulme, 2024; Stein, 2018). Snowling and Hulme (2024) note that cognitive and behavioural measures are less costly, more reliable and more effective at assessing students and informing interventions than methods using neuroimaging, stating that 'we do not see the rationale for including in a definition of dyslexia a reference to its likely neurobiological causes' (p. 357).

There is evidence that dyslexia may be heritable (Almahrag, 2022; Kere, 2014; Wolf et al., 2024) and brain imaging studies have identified structural and functional differences in the brains of dyslexic individuals (Ozernov-Palchik & Gaab, 2016; Norton et al., 2014). As Wolf et al. (2024) note, these differences in brain structure have been widely understood in terms of deficits or impairments but not in terms of the potential strengths that they might confer, concluding that 'research into educational practices to support the strengths associated with dyslexia is still limited' and that 'asset-based teaching pedagogies for students with

dyslexia' deserves further investigation (Wolf et al., 2024, p. 315). Furthermore, Vaughn et al. (2024) express concern that an emphasis on neurobiological factors might contribute to the view of dyslexia being an 'immutable condition' and lessen openness to the potential of remediation and support factors to positively impact dyslexic individuals (p. 327).

Reading is a complex activity which draws on auditory and visual processing systems in the brain. The visual ability to recognise words and symbols (orthography) is an important factor in learning to read and write. Speech, language and visual systems rely on executive function processes like working memory, attention and concentration which influence and are influenced by aspects of emotion and reflection (Wolf et al., 2024). The ability to process information quickly and automatically affects the speed and comprehension of reading. Specific deficits in these processes have been identified in an attempt to explain the causes of dyslexia and to guide remediation strategies. The following theories are briefly discussed: phonological deficit theory, double deficit theory, cerebellar deficit theory, magnocellular deficit theory and temporal sampling theory. Although there is ongoing debate in the field of theoretical causes, the phonological deficit theory has received the most support. This represents a cause at the cognitive level, but other theories have attempted to address phonological, visual and motor deficits at the biological level.

The phonological deficit theory, representing a low ability to detect and process sound segments (phonemes) which form words has been the most prominent theory at the cognitive level (Snowling, 2000; Vellutino et al., 2004) and has driven many of the interventions for the remediation of dyslexia. However, the phonological deficit does not explain some of the other factors which may be experienced by dyslexic individuals in terms of auditory (other than the phonological deficit), visual and motor impairments (Ramus et al., 2003). The double deficit theory (Wolf & Bowers, 1999) suggests that the phonological deficit and the rapid automatized naming<sup>7</sup> deficit (Denckla & Rudel, 1976) together might be the cause of reading difficulties indicating that interventions may need to address phonological skills as well as processing speed. The cerebellar deficit theory (Nicolson & Fawcett, 2005) postulates a cause of dyslexia at the biological level with effects on phonological skills and speed of processing at the cognitive level leading to challenges with

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<sup>7</sup> Rapid automatized naming refers to the ability to quickly name a series of items (Wolf & Bowers, 1999).



language, reading and motor coordination at the behavioural level. The magnocellular deficit theory (Stein, 2018) suggests that there is reduced sensitivity in magnocellular pathways leading to visual processing problems which may impact the ability to read and write fluently. The temporal sampling theory (Goswami et al., 2013) links auditory processing difficulties, particularly the ability to process the sounds of speech, with poor phonological awareness leading to difficulties with reading. This is discussed in greater detail (see section 2.4.1). These theories highlight for educators the importance of being aware that dyslexia may manifest itself in a variety of ways, that interventions may not work in each particular case and that although there is a substantial amount of evidence to support the phonological deficit theory, this alone does not account for all the difficulties experienced by dyslexic individuals. This has led to the growth of multifactorial models (Catts & Petscher, 2022; Haft et al., 2016) to explain the interactions between risk factors (for example, phonological deficit, co-occurring conditions, familial risk) and other environmental factors such as support factors (see section 2.3.5).

It is now believed that genetic, environmental, brain structural and perceptual/cognitive factors could all be involved in causing dyslexia (Catts & Petscher, 2022; Haft et al., 2016; Ozernov-Palichik & Gaab, 2016; Peterson & Pennington, 2012). Multiple causal factors (McGrath et al., 2020; Snowling, 2020) and co-occurring conditions may explain the vast diversity in the characteristics and cognitive abilities of individuals with dyslexia. This presents particular challenges for educators in terms of the variability that may be expected in dyslexic learners. However, evidence for the effectiveness of interventions, appropriate instruction and other factors has shown the potential of neuroplasticity to aid remediation. The following section discusses co-occurring conditions in greater detail (2.3.3).

### **2.3.3 Co-occurring conditions**

Research has focused on the differences between dyslexic and non-dyslexic individuals to increase understanding of the causes of dyslexia and to provide effective interventions. Snowling et al. (2020) note that despite dyslexia being seen primarily as a difficulty with literacy, 'the history of dyslexia captures a sense of complexity' (p. 501), not to mention the many dimensions of co-occurring conditions which may also be implicated. Individuals with dyslexia may have additional challenges with language, numbers, attention or motor

coordination, as detailed earlier by Rose (2009). Co-occurring conditions include attention-deficit hyperactivity disorder (between 20-40%), difficulties with maths or dyscalculia (around 40%) and around 30% with autism spectrum disorder (Hendren et al., 2018). Developmental coordination disorder is also correlated with dyslexia (Brimo et al., 2021). Research suggests that there may be a correlation between amusia<sup>8</sup> and dyslexia. A study suggests that as many as 30% of adults with dyslexia have amusic traits, whilst 25% of adults demonstrated characteristics of dyslexia (Couvignou et al., 2019). In a sample of 38 dyslexic children, 34% were found to have traits of amusia, which is substantially higher than the rate of amusia (1.5-4%) for the general population (Couvignou & Kolinsky, 2021).

### **2.3.4 Secondary characteristics**

Reading difficulties, along with other characteristics associated with dyslexia, may mean that dyslexics express unwillingness to go to school, may avoid challenging tasks or demonstrate poor behaviour as a way of coping with stress (Livingston et al., 2018). A lack of parental or educational support may negatively impact students, resulting in low self-esteem and anxiety (Francis et al., 2019; Novita, 2016; Ridsdale, 2004; Singer, 2005). Research (Leitão et al., 2017; Wilmot et al., 2023) indicates that this may increase stress for the family, with dyslexic children internalising their worries and feeling a sense of shame at causing parental anxiety. Washburn et al. (2014) note that mothers tend to have the role of ‘investigators’ (p. 123) and that the level of their knowledge of dyslexia plays a part in their ability to act as advocates for their children (Reid, 2016). Negative educational experiences have been found to have consequential effects on motivation and emotional well-being (Wilmot et al., 2023) with reports of isolation and bullying common (Humphrey & Mullins, 2002). The result of these persistently negative experiences may lead to a state of ‘learned helplessness’ in which the individual with dyslexia may lose confidence in their capability of learning (Maier & Seligman, 2016).

By considering support factors (see Section 2.3.5) in education, it may be possible to reduce or lessen the development of secondary characteristics and subsequent negative impact on dyslexic individuals, the learning process and their families. The next two sections consider

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<sup>8</sup> Amusia is defined as the inability to perform specific tasks including recognising a melody without the lyrics, distinguishing incorrect notes or perceiving music that is not in tune (Ayotte et al., 2002).

support factors, intrinsic and extrinsic, which may contribute to better educational and emotional outcomes, as well as assisting the dyslexic individual to reach the full potential of their capabilities (2.3.5).

### **2.3.5 Support factors**

In light of the serious impact of secondary characteristics on socio-emotional well-being, there are a number of support factors identified in the dyslexia literature. These may encourage resilience and mitigate the negative impact of the secondary characteristics (Catts & Petscher, 2022). Factors may be intrinsic, related to the individual, or may be extrinsic, related to their environment.

#### ***2.3.5.1 Intrinsic support factors***

Support factors related to the individual include positive perceptions of the label of dyslexia, feelings of hope, self-determination, growth mindset and a sense of personal agency (Catts & Petscher, 2022; Haft et al., 2016; Singer, 2005; Wilmot et al., 2023). Shaywitz et al. (2016) state that 'self-awareness and self-knowledge, gained by an accurate diagnosis of dyslexia, brings in the light and allows the person to understand himself' (p. 283). Strengths, which may be considered an intrinsic support factor, are discussed in more detail in section 2.3.5.3. This emphasises the importance of an accurate understanding of dyslexia and how it affects each person individually, as well as an understanding of the role of positive mindsets and approaches in promoting dyslexic students' resilience.

#### ***2.3.5.2 Extrinsic support factors***

Extrinsic factors may be related to the family and the student's educational environment. Of particular importance is the role of parental involvement (Catts & Petscher, 2022; Haft et al., 2016; Wilmot et al., 2023). Communication between the parent and their child and parental attitudes toward dyslexia were found to be valuable factors in effective support (Reid, 2016), with parents often acting as advocates between the school and their child, negotiating better terms on their behalf. Parental support, in terms of encouragement and advocacy, may involve minimising stigma and managing expectations (Ross, 2019). However, Glazzard (2010) suggests that both a diagnosis and parental support are beneficial, but notes that in some cases 'negative influences from both teachers and peers negated the positive support provided by parents' (p. 68).

By promoting their child's strengths and encouraging resilience in the face of challenging situations with school or teachers, parents may not only act as advocates but also teach their children to advocate for themselves (Alexander-Passe, 2008). However, research shows that parents of dyslexic students do not always feel supported or able to access the information necessary to make informed decisions about their child's education; they may lack the necessary trust in the professionals involved and may not feel confident in their knowledge of dyslexia or the options available to them (Ross, 2019; Wilmot et al., 2023). In light of the role of heritability and the possibility that parents of dyslexic students might themselves be dyslexic, this may create challenges for them as to how they acquire knowledge about dyslexia, advocate on the student's behalf and the accessibility of written policy statements or communication from the school.

Catts and Petscher (2022) affirm this, suggesting that factors such as 'instruction, growth mindset, task-focused behaviour, adaptive coping strategies, family and peer support' might offset risk factors associated with dyslexia (p. 173). There may be challenges for students concerning their awareness of dyslexia, and how it affects them individually and their learning environment, but an awareness of dyslexia and self in addition to parental and community support may mitigate these. Wolf et al. (2024) also emphasise the role of appropriate instruction, stating that:

Dyslexia can change over time, particularly when the strengths and advantages of its unique differences in brain organization are fostered alongside preventative factors that emphasize resiliency, persistence of effort, and respect for the potential of every individual. (Wolf et al., 2024, p. 317)

#### ***2.3.5.3 Strengths associated with dyslexia***

Another support factor may be the more positive view of dyslexia and related strengths which is emerging (Eide & Eide, 2011; Malpas, 2017; Reid, 2016; Rooke, 2015). Some of these strengths may have developed as a coping mechanism for the difficulties created by dyslexia (Everatt et al., 2008). Creativity, high-level reasoning strengths and character strengths have been explored within research, showing that dyslexics are prevalent in creative fields such as art and design, engineering and architecture (Alden & Pollock, 2011; Cancer et al., 2016; Lemon & Shah, 2014; Rooke, 2015; Wolff & Lundberg, 2002). Research

has identified a high number of dyslexic individuals among entrepreneurs, suggesting creative innovation and social skills (Logan, 2009). An understanding of visual representations and intuitive thinking may be associated with differing brain structure and functioning in dyslexics with both strengths seen as important factors for creative thinking (Cancer et al., 2016; Casanova et al., 2002; Shaywitz & Shaywitz, 2016; Schneps et al., 2012). Kapoula et al. (2016) found that children and adolescents with dyslexia scored higher on creativity tests than non-dyslexic controls, although they suggest that the learning environment also plays a role in supporting these strengths through personalised instruction. Conversely, in a meta-analysis of dyslexia and creativity, Majeed et al. (2020) found that higher levels of creativity were demonstrated in dyslexic adults only.

In addition to creativity, Eide and Eide (2011) propose that dyslexics may display high-level reasoning strengths which they describe as material, interconnected, narrative and dynamic. Material reasoning is described as 'three-dimensional spatial reasoning'. One example of supporting research for this involves dyslexic adolescents who outperformed non-dyslexics in the reconstruction of 3-D images using virtual reality (Attree et al., 2009). Interconnected reasoning is the ability to make connections between diverse concepts. Research to support this includes reference to a dyslexic advantage of employing peripheral rather than central vision (Schneps et al., 2012). Narrative reasoning refers to the use of story-telling or visual images to remember concepts and processes. Dynamic reasoning involves the ability to predict through past pattern recognition what might happen in future settings. Character strengths such as the ability to network and perform well as part of a team (Rowan, 2010), determination and resilience are also noted as dyslexic strengths (Kannanga et al., 2018). Some research suggests a strength in the area of empathy (Sanderson-Mann & McCandless, 2006), and research with dyslexic children found them to have greater emotional reactivity, which is believed to be associated as a social strength (Sturm et al., 2021).

Positive psychology has the potential to inform educational philosophy as an approach which acknowledges areas of weakness but seeks to identify and leverage the use of strengths to promote learning (Magyar-Moe, 2009). Frederickson's (2004) theory suggests that positive emotions broaden an individual's openness to new ideas and interactions. Furthermore, Seligman's (2011) positive psychology approach focuses on positive emotions,

traits and the creation of positive communities to facilitate human flourishing.

Unfortunately, this strengths-focused approach is not commonly utilised when it comes to dyslexia, which most commonly has been correlated with deficits.

The next section of this chapter focuses on the connections between music and language and how this has driven music interventions for improving literacy in dyslexic students. An overview of music teaching and dyslexia literature follows.

## *2.4 Music training as an intervention for dyslexia*

The connections between music and language, particularly in the area of early childhood development, have been investigated for a number of purposes. This field has evolved in the last twenty-five years from a pedagogical focus on instrumental teaching to the use of music as an intervention. Research on music and dyslexia is now predominantly focused on the use of music training as an intervention to improve aspects of literacy but also includes some research on the related topic of music abilities as a potential early predictor for dyslexia or reading difficulties. There is far less research and pedagogical material concerned with music teaching for dyslexic students in comparison. The music teaching and dyslexia research is focused on the challenges experienced by dyslexic musicians and their teachers with descriptions of effective compensatory strategies and approaches. This highlights the need for the provision of high-quality and evidence-based information for music teachers with dyslexic students.

This literature review begins with a brief overview of the connections between music and language (2.4.1), the theories which underpin the use of music as an intervention for literacy remediation (2.4.2) and evidence for specific types of music training (2.4.3) followed by a summary (2.4.4). The second half of this literature review explores an overview of music teaching and dyslexia literature (2.5) including the challenges reported by dyslexic musicians and music teachers and the strategies they correlated with these difficulties. Next, a discussion of three books on music and dyslexia includes an analysis of the content and accessibility (2.6). The next section considers general inclusive teaching approaches and provision to access (2.7). Finally, the literature is summarised and discussed leading to the formulation of the research questions (2.8).

### **2.4.1 Connections between music and language**

Music and language are both methods of expression and communication, aural and written, which rely on similar hierarchical structures: sequences of acoustic melodic and rhythmic patterns which occur over time and are based on smaller units such as phonemes or notes. These smaller units are represented by symbols: letters and speech marks in language correlate to music notes and articulation marks in music. Sounds are distinguished by duration, frequency, intensity and timbre. In both music and speech, there are elements of timing and prediction (Patel & Iverson, 2014; Tillmann, 2012). The rhythm of speech is understood through changes in duration and pitch of sound (intonation, stress) which convey meaning and guide the listener's understanding (prosody). Rhythm, in speech and music, is organised into metrical structures. An ability to map the symbol to sounds is foundational for reading and writing in both language and music. In music, notes and intervals are combined to create melodic and harmonic phrases in a piece of music; similarly, in language, phonemes and morphemes are combined to create words and sentences. This requires phonological awareness or the ability to recognise and manipulate sounds (Hulme et al., 2015). These sounds are organised into words and phrases which relate to one another structurally in language through what is known as syntactical processing; the meaning of these words and phrases is understood through semantic processing (Patel, 2007). In terms of purpose and structure, language and music have many similarities.

Dyslexia may affect both visual, auditory and motor processing. Auditory processing refers to peripheral (reception of sound) and central auditory systems (analysis of sound). The peripheral system consists of the auditory nerve and auditory pathways in the brain, whilst the central system includes the brainstem, thalamus and cortex. Temporal processing is the processing of sound over time (Patel, 2007). The processing of music and language requires the use of memory and motor systems in the brain, which may be affected by dyslexia. As mentioned in section 2.3.3, the prevailing theory of dyslexia is based on a phonological deficit which may affect the processing of rhythm in speech and music (Boll-Avetisyan et al., 2020; Goswami, 2019). Both music and language consist of stressed and unstressed sounds. In music, these sounds are regulated by pulse and predict metrical structures. Speech rhythm is understood by the amplitude envelope, which contains information through

patterns of duration, rhythm, tempo and stress information (Goswami, 2019; Meyer et al., 2019). Both the ability to process speech and to acquire language skills come from an accurate processing of the amplitude envelope. Tierney and Kraus (2013) identify several sub-skills relating to reading: 'phonological awareness, speech-in-noise perception, rhythm perception, auditory working memory and an ability to learn sound patterns and show that they are correlated to music processing abilities' (p. 209).

Some studies have shown that dyslexic music difficulties may include synchronising with a metronome (Colling et al., 2017; Overy, 2003; Thomson & Goswami, 2008; Wolff et al., 2002), identifying rhythm or metre changes (Goswami et al., 2013; Huss et al., 2011), pitch discrimination and pitch in the short-term memory (Besson et al., 2007; Ziegler et al., 2012; Weiss, 2014) and tone deafness (Couvignou et al., 2019; Couvignou & Kolinsky, 2021). Research has indicated that there may be difficulty in dyslexia with synchronising to the speech envelope (Leong & Goswami, 2014; Molinaro et al., 2016). Ladányi et al. (2020) suggested that poor rhythm perception was linked to neurodevelopmental disorders, including dyslexia.

These challenges in rhythm for dyslexics correlate with poor phonological awareness and reading difficulties (Cancer & Antonietti, 2018; Flaugnacco et al., 2015; Forgeard et al., 2008; Goswami, 2011; Huss et al., 2011; Ozernov-Palchik et al., 2018; Thomson & Goswami, 2008). Studies have appeared to confirm the TSF theory, the impairment of rise-time processing in dyslexics as a result of poor entrainment to neural oscillations (Goswami et al., 2016; Huss et al., 2011). These findings emphasise the connection between mechanisms of rhythm and language processing and support the rationale for music training as an intervention. This is described in greater detail in the next section.

#### **2.4.2 Rationale for the use of music as an intervention for dyslexia**

A number of theories have been put forward to explain the connections between music training and language processing. Research indicates that music and language may share some neural resources (Albouy et al., 2020; Koelsch, 2011; Schön et al., 2010; te Rietmolen et al., 2024). However, there is also evidence that they may have separate and distinct areas of processing (Boebinger et al., 2021; Chen et al., 2023; Blank & Fedorenko, 2020). Based on the theory that some neural systems are shared, music training has been investigated as a



means of improving language processing (Besson et al., 2011; Flaunacco et al., 2015; Francois et al., 2013; Kraus and Chandrasekaran, 2010; Tallal & Gaab, 2006). The theories which underpin the rationale for music training are discussed in conjunction with the PRISM framework (Fiveash et al., 2021). These theories are mentioned in the next paragraph in preparation for discussion of the PRISM framework.

Dynamic attending theory (Jones, 1976) suggests that ‘tone sequences presented at a regular rhythm entrain attentional oscillations and thereby facilitate the processing of sounds presented in phase with this rhythm’ (p. 324). Tallal and Gaab (2006) posit that in dyslexia there may be problems with rapid auditory processing. In the temporal sampling framework, Goswami et al. (2002) recognised that an impairment in the rise-time perception of sound may indicate difficulties with the ability to segment syllables and phonological processing in dyslexia, but suggests that interventions which draw on the entrainment of syllables to rhythm and metre in music may be effective mediators. Patel (2012) suggested that music training might benefit language subject to the following conditions in the OPERA hypothesis: ‘overlap, precision, emotion, repetition and attention’ (p. 125). Another theory in support of music training is that music requires greater precision in auditory processing and the impact of music training would enhance processing for speech in a transfer of skills based on shared neural circuits, or the precise auditory timing hypothesis (Tierney & Kraus, 2014). The SEP (sound envelope processing and synchronisation to pulse) hypothesis (Fujii & Wan, 2014) provided further support that due to overlapping speech and language domains, an intervention using rhythmic activities would potentially benefit sound envelope processing and entrainment to a pulse leading to improved speech and language processing. These theories gave rise to an expanded understanding of the role of rhythmic activities as an intervention for speech and language difficulties and led to the proposal of the following framework.

Fiveash et al. (2021) developed a framework, based on the theories discussed in the preceding paragraph, of processing rhythm in speech and music (PRISM) which emphasises ‘fine-grained auditory precision, neural oscillations and sensorimotor coupling’ in a combination of these previous theories to highlight specific aspects of music rhythm training which would benefit speech processing (p. 773). These findings emphasise the importance of accurate speech rhythm processing to underpin phonological awareness and language

development in children with dyslexia. Zuk et al. (2018) conducted the first neuroimaging study which showed that music training may enable dyslexics to develop a neural network which compensates for the impaired regions for reading ability. Studies with dyslexic musicians have identified similar auditory sensitivity and rhythmic perception compared with non-dyslexic musicians (Bishop-Liebler et al., 2014) and improved amplitude processing as compared to the general dyslexic population without music training (Zuk et al., 2017). This supports the use of musical training for dyslexia as an effective way to improve difficulties with speech and language processing.

### **2.4.3 Music training for remediation of impairments associated with dyslexia**

Music has the potential to be an enjoyable and social experience which is fulfilling and meaningful to those who participate in it. Early studies investigating the use of music as an intervention for language development highlighted the benefits of music as a multisensory and engaging activity and demonstrated benefits to phonological awareness (Overy, 2003, 2008; Register et al., 2007). Musical activities may have an impact on dyslexic students' confidence and self-esteem (McCarthy & Ditchfield, 2008; Oglethorpe, 2008; Overy, 2008). There appears to be valuable potential for improvement in auditory processing, sequencing and memory as well as motor coordination skills through activities such as singing, movement and playing musical instruments (Forgeard et al., 2008; Oglethorpe, 2008; Overy, 2008).

#### ***2.4.3.1 Studies of music training to support language development***

Based on the importance of temporal processing to the development of phonological awareness, language and literacy skills, rhythm has been an important focus. Although several experimental studies supported the use of rhythmic activities to improve phonological awareness, Cogo-Moreira et al. (2012) found no evidence for music interventions as a remediation for dyslexia as none of the studies reviewed had used randomised control trials. However, Flaugnacco et al. (2015) conducted the first randomised control trial supporting the role of rhythm in improving temporal processing abilities which are important for the development of language and reading skills. In another review, Rolka and Silverman (2015) analysed 23 studies of music with dyslexic children and adults and suggested that amongst the intervention literature, there was a positive correlation between music training and literacy development. A more recent review of music rhythm

interventions with poor readers demonstrated further support for improved phonological awareness (Cancer & Antonietti, 2022).

Research involving the use of rhythmic training approaches in dyslexic children has demonstrated improvements in phonological awareness (Bhide et al., 2013; Bonacina et al., 2015; Caccia & Lorusso, 2021; Cancer & Antonietti, 2022; Flaughacco et al., 2015; Frey et al., 2019; Goswami et al., 2013; Habib et al., 2016; Huss et al., 2011; Overy, 2003; Register et al., 2007; Thomson et al., 2013). The use of an applied video game ('Mila-Learn') to improve rhythmic abilities has demonstrated potential in dyslexic children (Vonthran et al., 2024), also indicating that music training might take place in a variety of contexts and formats both formal and informal.

Tallal (2012) demonstrated that improved attention, listening and reading skills correlated to music training directed at auditory processing skills. This is extended to levels of higher-level language understanding (syntax and grammar) in studies using rhythmic musical primes (Chern et al., 2018; Przybylski et al., 2013). Loui et al. (2011) found evidence of a correlation between poor pitch processing and reduced phonemic awareness in dyslexic children; this appears to confirm studies which support a connection between dyslexia and amusia (Couvignou, 2019; Couvignou & Kolinsky, 2021). Studies comparing dyslexic and non-dyslexic musicians indicate that music training may improve auditory processing skills (Bishop-Liebler, 2014). Drawing away from the temporal processing theory, Rathke and Lin (2021) propose that difficulties with phonemic awareness, possibly related to poor auditory short-term memory, are the cause of the difficulties with rhythm. More research is needed to understand the distinct mechanisms that disrupt music, speech and language processing in dyslexia so that interventions through music training can be effective. Some studies appear to confirm that music and rhythmic training in particular may improve brain circuitry for both music and language skills (Gordon et al., 2015, Groß et al., 2022).

In a study of infants (birth to six months old) at familial risk of dyslexia, Paula et al. (2023) found that passive listening to vocal music was sufficient to benefit speech and language processing. Research using repeated reading with vocal music masking (RVM) remediation with dyslexic children has shown improvements in attention and phonological skills (LeLoup et al., 2021). This suggests that apart from temporal processing, there may be other shared

mechanisms that promote music and language development. These findings support the evidence for music training to be an effective remediation for impairments. There is scope for further research to investigate the use of different types of music interventions, to consider at which age interventions may most affect neuroplasticity and the consequent impact on language development.

#### ***2.4.3.2 Studies of music skills as early identifiers of language and literacy difficulties***

Investigations of musical aptitude, using tonal and rhythmic measures, suggest that low musical aptitude might predict low phonological awareness and would support early intervention before the child begins to struggle with reading (Bégel et al., 2022; Culp, 2017; Lundetræ & Thomson, 2018; Strait et al., 2011; Turker & Reiterer, 2021). Studies involving event-related potentials to speech appear to indicate that even in infancy there are identifiable markers correlated to language difficulties (Cantiani et al., 2016; Kailaheimo-Lönnqvist et al., 2020). In a study including both preschoolers and older children, aged 8, both the ability to reproduce rhythms and perceive pitch was a predictor of phonological awareness (Steinbrink et al., 2019). Politimou et al. (2019) observed that being able to perceive and produce rhythm predicted phonological awareness in preschoolers, but that being able to perceive melody showed only an effect for grammar development in language. However, in a recent longitudinal study with pre-readers, measures of music ability (melodic and rhythmic perception, memory) in children at risk of dyslexia did not appear to predict their problems with literacy (Couvignou et al., 2024).

#### **2.4.4 Summary**

Thus far, the motivations for this research which arose from experiences in my teaching practice have been discussed. To gain a greater understanding of dyslexia, definitions, characteristics and support factors have been explored. From a music teaching perspective, this has enhanced my comprehension in terms of the complexity of dyslexia and the variability with which it may affect individuals and has given me a novel view of the role of dyslexic strengths and support factors in my teaching. These findings suggest the importance of basic knowledge about dyslexia for music teachers. Understanding the overlap in co-occurring conditions enables an awareness of potential challenges for the student, not just in the area of text reading, but also in the areas of motor coordination, attention, organisation, sequencing, pitch discrimination and memory. It also suggests that

teaching that is tailored to the individual might account for and accommodate the diversity that is to be found amongst dyslexic individuals. In particular, this suggests that facilitating an awareness of strengths and other support factors may also promote students' self-esteem, and mental and emotional well-being which, according to the literature, may be an area of vulnerability.

In section 2.4, the relationships between music and language have been considered as a means of understanding how music training may benefit areas which show impairment for speech processing in dyslexic individuals. Music requires more precise processing than speech. In particular, processing the rhythm of speech may be disrupted in dyslexia and this affects the ability to segment syllables which may explain the phonological deficit which has been theorised to cause reading difficulties in dyslexics. The research discussed above in section 2.4 highlights some of the difficulties that dyslexic students may have in learning music: maintaining a pulse, accurate rhythmic and melodic perception and the ability to discriminate between pitches and intervals.

However, there is a growing body of evidence that music training does improve these aspects which are foundational for learning to play a musical instrument through a process of transfer. Music teachers may need to give more focus at the beginning to multisensory activities to improve beat and rhythm processing, as suggested by Overy (2008). This area of research also highlights the importance of rhythm training, not just to build foundational knowledge or correct errors, but to be an enjoyable and social activity which may have extended benefits for dyslexic students. My own experiences as a piano teacher and preliminary discussions with fellow teachers suggest that teachers may not feel that they have enough training or knowledge in understanding dyslexia and effective strategies for successfully teaching students with dyslexia. The lack of appropriate training and resources for teachers may prove an obstacle to dyslexic students developing an understanding of their learning potential and achieving their musical goals.

The next section (2.5) focuses on the music teaching and dyslexia literature beginning with an overview of recent literature, an analysis of music and dyslexia materials (2.6) and inclusive music teaching approaches (2.7). A discussion of the research questions concludes this chapter (2.8).

## *2.5 Music teaching and dyslexia literature*

The following sources related to music teaching and dyslexia are presented in a general timeline. Analysis of some of the key texts follows (2.6) and these are discussed in relation to other dyslexia educational materials and research.

One of the earliest articles was written by Margaret Hubicki, a teacher at London's Royal Academy of Music, and Professor Tim Miles, one of the founders of the British Dyslexia Association. They were some of the earliest members of the British Dyslexia Association music committee. Hubicki and Miles (1991) reported on Hubicki's experiences with students who showed characteristics of dyslexia in the music lesson setting. These included difficulties with sight-reading music and spatial awareness. Strategies were based on effective literacy principles for remediating dyslexia but were incorporated into the music teaching setting. For difficulties with specific spatial concepts, for example, correlating horizontal left and right directions on the keyboard with low to high sounds, Hubicki and Miles (1991) note the importance of students having the opportunity to manipulate physical materials in order to promote comprehension of various concepts. Hubicki described ideas of how to incorporate multisensory, structured and individualised activities into music learning during lessons. Most notably, Hubicki developed a colour staff to help students distinguish the lines on the music score and to be able to recognise recurring patterns through the use of colour (Hubicki & Miles, 1991).

Ganschow et al. (1994) present profiles of six adult musicians (with difficulties associated with dyslexia but without formal assessments) who described their challenges with learning music and described compensatory strategies which they had developed. These were compared with the reported case of a professional pianist with dyslexia (Backhouse, 2001). All seven musicians reported challenges with sight-reading music, speed of processing, detecting and maintaining a pulse in addition to other rhythmic difficulties. Other areas presenting challenges were mixed in the profiles of the musicians: attention, fluency, reproducing music from memory and spatial awareness. Ganschow et al. (1994) refer specifically to musicians with dyslexia and their approaches to learning notation through the use of aural and kinaesthetic memory and in the case of one pianist, by learning a piece hands together rather than hands separately as they needed a more holistic understanding

of the piece before separating components. In a discussion of musical strengths and weaknesses, compensatory strategies included a holistic sense of the score and music, clapping rhythms, kinaesthetic memory, reliance on aural memory and multisensory approaches such as listening, feeling the melody line contours and visualising the music.

Sheila Oglethorpe's *Instrumental music for dyslexics: A teaching handbook* was first published in 1996, and depicts her experiences with dyslexic students in her piano teaching practice, challenges they presented with and strategies to support the students with, not only music learning but also to promote their self-concept and encourage their well-being. Multisensory instruction, in particular Dalcroze and Kodály methodologies, was suggested as well as an understanding of the student's learning profile. Noting that dyslexic students are normally anxious and vulnerable to fragile self-esteem, Oglethorpe points out the weighty responsibility of the teacher to encourage and support, stating that teacher attributes such as 'humility, adaptability, imagination, awareness, and genuine interest' are crucial (Oglethorpe, 2008, p. 28).

Oglethorpe (2008) notes that parents may choose teachers for a variety of reasons which do not always align with students' needs and describes the lack of training in educational psychology and dyslexia for instrumental music teachers as a 'dangerous scenario' (p. 25). Oglethorpe (2008) found parents of dyslexic students to be generally supportive in assisting their child with practising but also noted that some found it challenging not to pass on their own anxieties. Some parents were reluctant to reveal information about their child which could relate to assessment needs, although Oglethorpe (2008) pointed out that it might enable the teacher to better organise and prepare instruction for the student. Several sources refer to a parental denial of dyslexia that can be an obstacle to students receiving an assessment and assistance (Bajaj & Bhatia, 2020; Bonifacci et al., 2014; Oglethorpe, 2008). Anecdotal experiences describe parents learning of their own dyslexia by observing their child's challenges and subsequent diagnosis (McCarthy & Ditchfield, 2008; Oglethorpe, 2008; Nelson & Hourigan, 2016). Oglethorpe's (2008) book is analysed in more detail in section 2.6.

In a small-scale pilot study on learning music notation, Jaarsma et al. (1998) note that the speed and accuracy of dyslexic children was affected in reading music. Suggesting that

alternative notation systems using colour or codes would not be effective, they emphasise an approach to music reading that focuses on making music and relating that to notation gradually in an implicit learning approach. Rather than learning the names of notes and symbols first, playing the instrument and engaging with music would be the starting point. *Music and dyslexia: Opening new doors* (Miles & Westcombe, 2001) is a compilation of essays written by dyslexic musicians, music teachers and researchers; the book highlights the benefits of music learning and gives practical suggestions for teachers. This was the prequel to *Music and dyslexia: A positive approach* (Miles et al., 2008) which, as one of the key texts on this topic, is discussed in greater detail in section 2.6. Vance (2004), a classroom music teacher, discussed the challenges experienced by dyslexic learners: sight-reading, organisation, sequencing, concentration, behaviour, following directions, motor coordination and spatial awareness. Adaptation to the music classroom consisted of advising instrument choice carefully, simplifying tasks, repetition and the use of colour paper, colour coding of materials and recordings.

Macmillan (2004), a piano teacher with Suzuki training, highlighted the Suzuki approach as beneficial for dyslexic students due to the emphasis on structured instruction, an emphasis on listening and imitating, repetition and group lesson settings. Flexible and adaptable teaching was advised with a focus on promoting students' understanding of their own paths to learning. A discussion (Heikkila & Knight, 2012) of dyslexia in the music classroom highlights the valuable role of the music teachers and suggests adaptations to the learning environment, colour coding on music scores, the use of tangible materials and multisensory teaching such as embodied pulse and rhythm activities. To understand specific music notation reading difficulties, Flach et al. (2014) compared dyslexic with non-dyslexic children to consider how best to adapt music to reduce these challenges. They found that enlarging the music and drawing the stems of the music in the same direction was beneficial, but that the use of colour to represent staff lines was not supported.

In a comparative case study (Nelson & Hourigan, 2016) investigated the perspectives of five adult musicians with dyslexia. One surprising finding was that not all of the participants struggled with reading music. The study confirms the benefits of multisensory and structured instruction, small group lessons, breaking tasks and concepts down into smaller units and the use of technology for composing. Jazz and popular music, both genres which



lend themselves to improvising and simple chord structures, may be useful for those who find reading music a challenge. Four of the participants correlated positive factors in their careers as musicians with dyslexia. These included holistic ways of interpreting music, problem-solving abilities, strong aural memory and empathy. Empathy skills were described in relation to performance abilities and interpersonal relationships. Participants highlighted the importance of the teacher-student relationship. Nelson and Hourigan (2016) suggest that future research should investigate the preparedness and qualifications of music teachers for teaching students with dyslexia.

Morrow (2023), a cello teacher with a dyslexia instructor certification, suggests that most music teaching is not appropriate for students with reading disabilities and supports the need for more logical and structured learning to be applied. She identified music reading as the main challenge but mentioned confusion with the use of terminology or concepts such as duration and pitch. Morrow (2023) explains her process of moving from the simplest to the most complex concepts in a series of steps designed to build understanding, rather than promote rote memorisation. Using multisensory activities, visuals and repetition, Morrow (2023) encourages the student to build connections between concepts and introduces material in a cumulative way. Morrow (2023) concludes by asking ‘Have music education specialists thoroughly researched this issue?’ and ‘What researched-based solutions have been provided to teachers so they know exactly how to help their struggling students?’ (p. 26). Interestingly, both Nelson and Hourigan (2016) and Morrow (2023) suggest that there is a need for high-quality training for music teachers so that they may effectively teach dyslexic students.

In order to prevent repetition and for purposes of further analysis, strategies suggested by these sources are summarised in the following table (Table 2.1).

Strategies	Literature
<b>General Strategies</b>	
Multisensory approaches	Hubicki & Miles (1991), Oglethorpe (2008), Miles et al. (2008), Reid (2016), Morrow (2023)
Overlearning or repetition	Vance (2004), Oglethorpe (2008), Miles et al. (2008), BDA (2022), Morrow (2023)
Systematic or structured	Vance (2004), Oglethorpe (2008), Miles et al. (2008), BDA (2022), Morrow (2023)

Personalised or individualised instruction	Hubicki & Miles (1991), Vance (2004), Oglethorpe (2008), Miles et al. (2008)
Visualisation	Ganschow et al. (1994), Oglethorpe (2008), Miles et al. (2008)
<b>Score modifications</b>	
Enlargement of score	Vance (2004), Heikkila & Knight (2012), Flach et al. (2016), Oglethorpe (2008)
Simplifying or reducing parts	Oglethorpe (2008), Morrow (2023)
Use of colour to highlight challenging parts	Hubicki & Miles (1991), Oglethorpe (2008)
Drawings or visual aids to highlight specific music instructions	Ganschow et al. (1994), Vance (2004), Oglethorpe (2008), Miles et al. (2008)
Isolating elements and learning them separately	Vance (2004), Oglethorpe (2008), Nelson & Hourigan (2016), Morrow (2023)
Identifying common rhythm patterns and practising them	Oglethorpe (2008), Miles et al. (2008)
Alternative notation systems (for example, Figurenotes <sup>9</sup> )	Hubicki & Miles (1991)
Modifying notes (changing stem direction)	Flach et al. (2016)
<b>Aural learning strategies</b>	
Listening to recordings or making recordings	Hubicki & Miles (1991), Ganschow et al. (1994), Vance (2004), Nelson & Hourigan (2016), Oglethorpe (2008)
Demonstration	Vance (2004), Oglethorpe (2008)
Singing	Vance (2004), Oglethorpe (2008)
Using aural skills to construct the melody	Oglethorpe (2008), Jaarsma et al. (1998), Nelson & Hourigan (2016), Miles et al. (2008)
<b>Rhythm learning strategies</b>	
Demonstration	Ganschow et al. (1994), Oglethorpe (2008)
Clapping or tapping the rhythm	Vance (2004), Oglethorpe (2008), Miles et al. (2008)
Kinaesthetic learning – remembering the feel of the music in the body	Oglethorpe (2008), Ganschow et al. (2004)
Following the music with a finger	Oglethorpe (2008), Hubicki & Miles (1991)
<b>Specific music methods</b>	
Kodály method – sound before symbol, embodiment of rhythm and pitches	Ganschow et al. (1994), Oglethorpe (2008), Miles et al. (2008)
Suzuki method – aural learning, repetition, involvement of parents	Macmillan (2004), Vance (2004), Oglethorpe (2008), Miles et al. (2008)
Dalcroze method – embodiment of rhythm and pulse	Miles et al. (2008), Oglethorpe, 2008, Vance (2004)
<b>The use of technology</b>	

<sup>9</sup> <https://drakemusicscotland.org/figurenotes/>

Arranging and composing music	Nelson & Hourigan (2016)
Editing music scores	Oglethorpe (2008), Nelson & Hourigan (2016), BDA (2022)
Recordings	Oglethorpe (2008), Nelson & Hourigan (2016), BDA (2022)

**Table 2.1 Summary of strategies**

These studies identify the need for further research in the area of music notation adaptations. Although children participated in the studies on music reading and notation (Flach et al., 2014; Jaarsma et al., 1998), there is scope for further research on the student perspective of their music learning experiences. Future research might explore aspects of strengths and compensatory mechanisms which have been described (Ganschow et al., 1994; Oglethorpe, 2008; Nelson & Hourigan, 2016) and how these might be utilised in music lessons to support students' learning. Further studies are needed to examine the types and subtypes of dyslexia including their relationship to music learning (Nelson & Hourigan, 2016; Flach et al., 2014), although the diversity across the dyslexic population makes such categorisations difficult. There is scope for a deeper understanding of the relationships between parent-teacher-student and how this may impact music learning and other factors. The need for an understanding of each individual student's learning profile as a starting point in tailoring instruction for their lessons is emphasised. Examining teachers' perceptions of their experiences with dyslexic students may give insight to relevant themes for teacher training, the need of which was emphasised by at least two of the sources (Morrow, 2023; Nelson & Hourigan, 2016).

## *2.6 Analysis of music and dyslexia materials*

### **2.6.1 Introduction**

As mentioned previously in this thesis, the topic of music and dyslexia has been discussed in a fairly small number of books. The aim of this section is to critically appraise available material and to suggest the need for current and high-quality information for instrumental music teachers. They have been analysed for accessibility and content. The content is critiqued according to the evidence given for accessibility, research-based strategies, considerations of student strengths, discussion on memory issues, the inclusion of multiple perspectives, safeguarding/data protection concerns and the use of technology.

Two of the three are in the category of a teacher's handbook: Oglethorpe (2008) *Instrumental music for dyslexics: A teaching handbook* and Aloba (2022) *How to teach dyslexics music*. Because Aloba (2022) has not had any editorial or peer-review process, unlike the other two books, it cannot be considered a rigorous source, though it has been included here due to its potential value as a guide written by a teacher with experience of working with dyslexic pupils. The third is a compilation of edited essays entitled *Music and dyslexia: A positive approach* (Miles et al., 2008). Sheila Oglethorpe (1933-2020) was a piano teacher who held the first conference on music and dyslexia at the Royal Academy of Music in 2010 when she was chair of the British Dyslexia Association music committee (Oglethorpe, 2020). Deborah Aloba is a singer and vocal teacher (Aloba, 2021) working in the UK. Professor Tim Miles, one of the editors of Miles et al. (2008) and a founding member of the British Dyslexia Association, began his work at a time when dyslexia was not recognised as a specific learning difference and was instrumental in changing perceptions of dyslexia (Fawcett, 2009). Editors John Westcombe and Diana Ditchfield are music educators with an interest in dyslexia.

Oglethorpe (2008) was first published in 1996 by Whurr Publishers whilst Aloba's (2022) handbook is self-published. Both handbooks (Aloba, 2020; Oglethorpe, 2008) are based on the authors' experiences teaching instrumental or vocal music lessons with dyslexic students. Oglethorpe (2008) has been reprinted in three editions and was advised by dyslexia experts Professor Margaret Snowling and Professor Margaret Hubicki (p. xi). Oglethorpe (2008) includes in-text citations in the main body of the book whilst Aloba (2022) chose not to include them in the text consistently. Both Oglethorpe (2008) and Miles et al. (2008) reference a number of sources.

Aloba (2022) does include a bibliography at the end of the book, but reference entries are inconsistent. Positive features of Aloba (2022) are the colourful diagrams and practical examples of the strategies suggested as well as practical application for teachers through questions at the end of each chapter. She also refers to percentages of her students without clarifying any characteristics of the sample population in terms of total numbers or specific learning differences. According to the introduction, the purpose in writing the book was so that other teachers would not have to go through as much difficulty compiling information,

stating that what the author did find was based on ‘anecdotal evidence’ and was not easily accessible in one place (Aloba, 2022, p. 1).

*Music and dyslexia: A positive approach* (Miles et al., 2008), was published by Whurr (now acquired by Wiley) and contains an edited compilation of essays from eighteen contributors (Oglethorpe contributes to more than one chapter) which are divided into the following four sections: ‘Tackling problems’, ‘In and around the classroom’, ‘Strategies and successes’ and ‘Science takes us forward’ (p. vi). The book is a sequel to a 2001 edition, with the addition of some new material. It is punctuated with personal stories. The book considers practical issues and solutions but also notes directions that future research may take. This book was written for instrumental and music classroom teachers, but might also be a useful resource for parents or dyslexic adult musicians. In-text citations and a reference list are included at the end of each essay.

### **2.6.2 Comparison of the layout and accessibility of the books**

The following section contains a comparative table of the content of the books, as well as a discussion on the accessibility of the content. None of the books meet current published dyslexia accessibility standards (BDA, 2023). Whilst these books are written primarily for teachers working with dyslexic students rather than as self-help books for dyslexic students, the lack of attention to accessibility suggests wider issues. There appears to be a lack of consideration for diverse readers and users of the material. Both Oglethorpe (2008) and Miles et al. (2008) are printed using serif fonts and are text-based apart from minor diagrams. Serif fonts have been found to be less accessible to dyslexic readers than a non-serif font, whilst the use of visual diagrams and layouts in place of or in addition to text is considered to be useful for dyslexics (BDA, 2023). Whilst the layout is simpler and there is less text in Aloba (2022), there is a lack of consideration in the area of accessibility as it is written using low contrast ratio between fonts and background in highlighted sections and contains columns (BDA, 2023).

Though the narrower columns do not meet the accessibility guidelines of the British Dyslexia Association (BDA, 2023), Rello and Baeza-Yates (2017) suggest that column width did not change the readability of text for dyslexics in their study, and therefore they do not indicate recommended column widths. On the other hand, Miniukovich et al. (2017) suggest in their

guidelines for dyslexic web accessibility that wider-length columns should be avoided. Some research (Kous & Polančič, 2019; Rello & Baeza-Yates, 2017; Schneps et al., 2013) suggests that a singular universal dyslexia design is an ineffective concept due to the vast diversity of the dyslexic population; therefore, the recommendation is for books to be available on websites or e-readers which allow for a high level of customisation.

The following table (Table 2.2) provides comparison of chapter headings:

<b>Oglethorpe (2008)</b> <b>178 pages</b>	<b>Aloba (2022)</b> <b>181 pages</b>	<b>Miles et al. (2008)</b> <b>176 pages</b>
<p><b>Chapters:</b></p> <ol style="list-style-type: none"> <li>1. Recognising dyslexia</li> <li>2. Communication - the pupil and the teacher</li> <li>3. Auditory considerations</li> <li>4. Visual challenges</li> <li>5. Motor problems</li> <li>6. Memorising and sight-reading</li> <li>7. Music theory - coping with writing music</li> <li>8. The lesson and the wider world</li> </ol> <p>Appendix: Repertoire for pianists Glossary Useful addresses Bibliography Suggested further reading</p>	<p><b>Chapters:</b></p> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Defining dyslexia</li> <li>3. Does the student absorb information visually, aurally or kinaesthetically?</li> <li>4. Assessing if a student has a learning difficulty</li> <li>5. Visual processing/reading difficulties</li> <li>6. Visual stress</li> <li>7. Dysgraphia</li> <li>8. Kinaesthesia and dyslexia</li> <li>9. Lack of focus</li> <li>10. Multi-sensory approaches</li> <li>11. Coping with visual processing difficulties and phonological methods with deep dyslexia</li> <li>12. Assistive technology for exam preparations</li> <li>13. Causes of dyslexia</li> <li>14. Auditory processing disorder</li> <li>15. Conclusion</li> </ol>	<p><b>Chapters:</b></p> <ol style="list-style-type: none"> <li>1. Dyslexia and other developmental differences</li> <li>2. Things that can go wrong</li> <li>3. In and around the classroom</li> <li>4. Classroom rhythm games for literacy support</li> <li>5. Early years: Deidre starts to learn piano</li> <li>6. Winning over the reluctants</li> <li>7. Can music lessons help the dyslexic learner?</li> <li>8. Parallels between the teaching of musical and mathematical notation</li> <li>9. The paperwork</li> <li>10. Sight-reading</li> <li>11. Sight-reading and memory</li> <li>12. Ten top tips and thoughts</li> <li>13. Can computers help? Matching the inner with the outer ear</li> </ol>

	Bibliography	14. Positive connections across the generations 15. Similarities and differences in the dyslexic voice 16. Thirty-seven oboists 17. Suzuki benefits for children with dyslexia 18. Dyslexia: No problem 19. Insights from brain imaging 20. Music reading: A cognitive neuroscience approach There is no bibliography at the end, but each chapter contains a reference list.
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**Table 2.2 Comparison of chapter headings in key texts**

Miles et al. (2008) include a chapter on neuroscientific research related to dyslexia (Chapter 20 in Miles et al., 2008). Oglethorpe’s (2008) book has a glossary of important terms, and signposts the reader to dyslexia resources and further reading resources; these are helpful resources for anyone not familiar with the topic of dyslexia. Whilst Oglethorpe (2008) and Aloba (2022) approach the topic from the viewpoint of teachers, Miles et al. (2008) include a multiplicity of perspectives from dyslexic musicians, researchers in the field of dyslexia and instrumental and school teachers.

### **2.6.3 Identifying features of dyslexia**

Each book refers to the definition and identifying characteristics of dyslexia. Oglethorpe (2008) and Aloba (2022) are written from their perspective of experiences with dyslexic students in instrumental and vocal lessons. Oglethorpe (2008) does refer to spatial difficulties more than Aloba (2020); this is most likely due to the difference of challenges experienced between singing lessons and using a physical instrument. The key difference in these books (Aloba, 2022; Oglethorpe, 2008) is that only the teacher’s narrative is included; whereas in Miles et al. (2008), first-person perspectives from teachers, students, musicians and researchers are incorporated.

Oglethorpe (2008) notes that most of the issues stem from poor sound and sight connections (p. 3) and that the student shows 'difficulty that is not typical of their general level of performance' (p. 4). The author refers to research being done in order to understand the different brain characteristics of dyslexics and characterises the challenging areas as auditory, visual, spatial and memory along with various secondary characteristics, noting that auditory challenges refer to slow aural processing, difficulty recognising rhyme, and phonological difficulties (Oglethorpe, 2008, p. 5). She recognised students' difficulty in maintaining a fixed focus, struggling with glare or tracking the music and differentiating between lines and space notes (p. 11), and Oglethorpe (2008) was able to identify patterns related to dyslexia. Spatial concerns which were observed by Oglethorpe include challenges with left and right, near and far, up/down and high/low. Struggles relating to memory consist of poor short-term, auditory, visual and kinaesthetic memories, but a permanence of material once the material is committed to long-term memory (p. 6). Secondary characteristics include disorganisation, poor concentration, anxiety, low self-esteem, frustration and inconsistent behaviour (p. 7).

In his contribution to the co-edited book, Miles (In Chapter 1 of Miles et al., 2008, p. 4) identifies some of the key characteristics of dyslexia as being a hereditary disorder, more common in males and originating from distinct brain characteristics. The author notes that this may cause difficulty with left and right, following instructions, learning times tables, spelling, short-term memory and symbols (p. 5), referring to related conditions of dyspraxia, ADHD, ADD, dysgraphia, dyscalculia, and autism spectrum under the main category of neurodiversity. Miles (2008) describes how awkward social situations, poor time management and school stress may also result from the related challenges of being dyslexic (Chapter 2 of Miles et al., 2008, pp. 12-15).

Aloba (2022) refers to the Rose Report (2009) definition of dyslexia with the addition of information about strengths from the British Dyslexia Association. If previously diagnosed and assessed, Aloba (2022) suggests using the formal assessment as a starting point. However, only Aloba (2022) notes that the cost of private assessment can be a potential barrier for families whilst also suggesting that additional support in the UK at the higher educational level is better than that of the primary and secondary school level. Indicators of dyslexia, noted by Aloba (2022), include avoidance of written music and desire to learn



aurally, challenges recalling melody or lyrics, lack of understanding of or misinterpreting instructions, lack of focus and attention, hesitation when there is a rest in the music, avoiding writing music, showing signs of anxiety or frustration, tense or frozen body language, singing incorrect but similar lyrics, preferring to chat through lessons, difficulty clapping a rhythm or 'trying too hard' (Aloba, 2022, p. 9).

Whilst Aloba (2022) and Oglethorpe (2020) refer to how dyslexic traits might be identified in the undiagnosed music student, Miles (Chapter 1 of Miles et al., 2008, p. 8) promotes the use of a diagnosis by a qualified assessor. Additional school support in the form of reasonable adjustments and accommodations is often the intention of an official diagnosis; however, Aloba (2022) notes the cost may be prohibitive for some families. Aloba (2022) and Oglethorpe (2008) highlight various challenges that they have identified with dyslexic students in instrumental or vocal lessons. It might have been useful to have included the student perspective as they may be able to narrate their own unique challenges and report strategies that have helped them whilst also avoiding misinterpretations or bias that may happen by solely including the teacher's narrative. An analysis of these viewpoints might enable teachers to have a better understanding of the needs of their dyslexic students.

#### **2.6.4 The label of dyslexia**

There is considerable debate about the advantages or disadvantages of the diagnostic label 'dyslexic' (Elliott & Grigorenko, 2014; Elliott & Nicholson, 2016). There is also discussion about how dyslexia should be classified, with Miles (2008) preferring to call it a 'difference' instead of a 'disability' (p. 3). Whilst Oglethorpe (2008, p. 14) suggests that the label of dyslexia is not necessary to be able to effectively teach a dyslexic student, Miles (Chapter 1 of Miles et al., 2008) disagrees, stating that 'The correct diagnostic label is essential if the student is to be adequately helped' (p. 8). All three books agree about the need for personalisation and individualisation in teaching dyslexic students.

Students, or their parents, might see the label of dyslexia as a negative thing, therefore Oglethorpe (2008) and Aloba (2022) stress the importance of adapting teaching for students, with or without a diagnosis. Oglethorpe (2008) refers to labels as potentially 'dangerous' considering the psychological damage they may inflict on the student, but also as potentially useful for the information they might provide to the teacher (p. 16). Aloba

(2022) also emphasises the ethical importance of confidentiality, particularly in the safekeeping of assessment records and notes, as a legal requirement for teachers under general data protection guidelines (ICO, 2021). There is scope for revision in future editions (Miles et al., 2008; Oglethorpe, 2008) to include information on current teaching guidelines for aspects such as data protection and safeguarding.

### **2.6.5 Learning modalities**

Aloba's (2022) material on learning modalities and strategies lacks a robust research base. She states that 'In the course of absorbing the information required to learn a new skill, it has been established that everyone has a preference in how they learn, be it visually, aurally or kinaesthetically' (p. 6). To support this statement, Aloba (2022) refers to an outdated study on learning styles (Rose & Nicholl, 1997). This study is not included in the bibliography of the book but appears to be a book published by Dell in 1997 by Rose and Nicholl entitled *Accelerated learning for the 21st Century: The six-step plan to unlock your master-mind*. Aloba (2022) then refers to two more recent research studies (Andreou & Vlachos, 2013; Stampoltzis et al., 2010) which relate directly to dyslexic learners. Stampoltzis et al. (2010) compared 20 dyslexic and 40 non-dyslexic university students' preferred learning styles and concluded that dyslexic students preferred the kinaesthetic learning style whilst non-dyslexic students preferred visual learning styles. Andreou and Vlachos (2013) compared 43 dyslexic and 86 non-dyslexic adolescents and confirmed that dyslexic students prefer a variety of learning styles, which may justify a multisensory approach to teaching. Whilst Aloba (2020) appears to believe that students will demonstrate a 'preferred learning style' and seeks to justify this position through the literature in the hope that it will inform her teaching, such a view is not universally supported (Kirschner, 2017; Westby, 2019). Nancekivell et al. (2020) suggest that a potential consequence of those who hold to this belief is that they risk a lack of understanding that students may prefer different learning styles at various stages and in different environments.

### **2.6.6 Strategies**

Based on the definition and characteristics of dyslexia reviewed in this literature review, there are numerous areas likely to be affected in music learning for dyslexic students, as visual, auditory, coordination, processing, sequencing, automaticity skills, spatial awareness,

working memory and organisation are implicated in learning to read and perform music (Miles et al., 2008; Oglethorpe, 2008; Nelson & Hourigan, 2016). This is likely to affect the ability to sight-read at speed. From observations of dyslexic students, Oglethorpe (2008) noted difficulty with left-right differentiation, inability to discern if notes on the staff were on lines or in spaces, lack of recall of lesson topics, disorganisation, poor coordination and low self-esteem. Another challenge is the fear of stigma or lack of confidence dyslexic musicians might face from fear of disclosure relating to components of music they find challenging (Ganschow et al., 1994; Oglethorpe, 2008; Miles et al., 2008; Vance, 2004).

The Orton-Gillingham approach to reading instruction provides the foundation for many programmes and teaching methods for students with reading difficulties and has been used for over 80 years; strategies include the use of multisensory activities, repetition, personalised instruction that is tailored to the student and their needs, with learning developed logically in a systematic and structured manner which enables students to progress (Reid, 2016; Phillips & Kelly, 2016). According to the Orton-Gillingham Institute for Multi-Sensory Education, a multisensory approach uses 'sight, hearing, touch and movement to help students connect and learn the concepts' (Institute for Multi-Sensory Education, 2020). The use of visual material may be useful for some, as well as opportunities to review and build on past knowledge with the teacher's assistance through a process known as scaffolding (Reid, 2016). Other strategies advocated for dyslexic students use of technology for reminders and recording lectures, being conscious of removing distractions, 'embedding' in memory things that need to be recalled (using mnemonics, acrostics or other memory assists), mind mapping and allowing space for breaks and relaxation (Saunders & Eastap, 2018, pp. 140-142). Reinforcement of knowledge might take place through verbalisation techniques, connecting to larger frameworks and simplified concepts (Reid, 2016). The following sections discuss strategies related to multisensory and structured teaching (2.6.6.1), visual (2.6.6.2), auditory (2.6.6.3), memory (2.6.6.4), motor coordination (2.6.6.5), using assistive technology (2.6.6.6), strengths (2.6.6.7) and summarise the key points (2.6.6.8).

#### ***2.6.6.1 Multisensory and structured teaching approaches***

Some general teaching strategies are advocated by dyslexic professionals as an intervention for literacy: multisensory, structured and the use of repetition (Reid, 2016; IDA, 2018;

Phillips & Kelly, 2016). However, these same principles might be applied to music. Multisensory teaching is advocated by all three books with Oglethorpe (2008) stating that this is the 'foremost piece of advice' for teachers (p. 12). Oglethorpe (2008, p. 55) suggests the use of a floor stave to help with interval recognition and fingering in a kinaesthetically appealing approach. Aloba (2022, p. 106) suggests using stairs or steps to teach intervals, breathing exercises and clapping or jumping games to learn rhythms. Aloba (2022, p. 108) also suggests breaking Italian terms into syllables and then inventing a corresponding movement to go along with the term as a multisensory activity. By asking a student to put together a jigsaw puzzle made of various 'pieces of a score of music' (i.e. elements such as the key and time signatures, double bar), Aloba (2022, p. 109) encourages the student to consider the different components and order of a piece of music.

Structured instruction (Miles et al., 2008, p. 56; Oglethorpe, 2008, p. 157) is also emphasised. Oglethorpe (2008) describes the need for each lesson to be structured in advance, but with 'flexibility' and adjustments when needed (p. 157). Aloba (2022, p. 111) mentions detailed and structured ways of teaching students with severe, or what she refers to as 'deep dyslexia' which involves using multi-modal teaching methods as well as simplification of the music to avoid overwhelming the student with information. Miles (Chapter 8 of Miles et al., 2008, p. 72-73) suggests that musical notation should be taught 'slowly and systematically', particularly in the case of musical symbols. Oglethorpe (2008) describes a systematic approach to piano pedalling designed to offset challenges by coordinating hands and feet (p. 95). Aloba (2022) details how using a 'music tree' is a structured way to explain the relationship of note values and refers to them using the American terms 'whole, half, quarter note' rather than 'semibreve, minim, crotchet note'. A visual aid of a tree-like structure is constructed through her layout of note values: starting with semibreve notes, she then adds the equivalent minim, crotchet, quaver and semiquaver notes underneath (Aloba, 2022, p. 102).

Repetition is a key teaching strategy for dyslexia and is advocated by each of the books (Aloba, 2020, p. 78; Oglethorpe, 2008, p. 43; McRitchie-Pratt, 2008, p. 43 (Chapter 3 of Miles et al., 2008). Oglethorpe (2008, p. 43) notes that the keyboard provides multiple opportunities to 'reinforce motor function, memory training, rhythmic and melodic discrimination'. The purpose of repetition as a teaching strategy for dyslexia is to improve

automaticity and to reinforce what has already been learned (Reid, 2016). The following sections compare the use of strategies in the three books regarding challenges that dyslexic music students might face: visual, auditory, memory, motor skills, composition or sight-reading.

#### **2.6.6.2 Visual**

Oglethorpe (2008, p. 5) and Aloba (2022, p. 4) refer to visual disturbances or stress. Aloba (2022) states that:

It is accepted that many people who suffer with dyslexia encounter visual problems: headaches and eyestrain when reading, text blurring, text going in and out of focus, text appearing double, text alternating between single and double, difficulty keeping place in text, difficulty tracking across lines of text, difficulty because of brightness of the page, difficulty because of contrast between text and background, text appearing to shimmer or flicker (pp. 4-5).

Oglethorpe (2008) is careful to point out that there are often unhelpful assumptions made about visual issues and dyslexia; she refers to genuine issues she has observed: poor binocular control (p. 54), glare from black print on white paper (p. 56) 'unreliable eye-brain relationship' (p. 57), challenges with focusing and 'tracking from left to right' (p. 66), and 'the score stimulating the brain to perceive movement' (p. 71). Oglethorpe (2008) does not refer to any research but suggests using coloured lenses, overlays or coloured paper as a solution (Oglethorpe, 2008, p.56). Aloba (2022) points to the benefits of covered overlays with students in her teaching practice (p. 23).

Advice given by SASC (the Specific Learning Difficulties (SpLD) Assessment Standardisation Committee in the UK) in 2018 points out that 'visual stress should not be used as a catch-all term for visual difficulties, there is no strong evidence between visual stress and dyslexia/SpLD and that assessors should not conduct coloured overlay tests or suggest or diagnose visual stress' (SASC, 2018, p. 3). In a systematic review, Suttle et al. (2018) concluded that there was not enough evidence to suggest that coloured overlays or lenses are a solution for visual discomfort. However, other research suggests that coloured filters may be useful to reduce visual stress in poor readers (Stein, 2022). SASC (2019) suggest that

anyone describing symptoms of visual stress or distortion should be referred to their optometrist and GP for assessment.

### **Enlarging the score**

Enlarging the score is suggested in all three books: Oglethorpe (2008, p. 49), Aloba (2022, p. 14), and the following chapters from Miles et al. (2008): Chapter Ten 'Sight Reading' (Oglethorpe, 2008, p. 88) and in Chapter Sixteen 'Thirty-seven oboists' (King, 2008, p. 134); this correlates with the evidence that enlarging the score may reduce errors based on a study of the readability of music in dyslexic children (Flach et al., 2016).

### **Note stems in the same direction**

Both Aloba (2022, p. 51) and Oglethorpe (2008, p.48) suggest modifying scores so that stems on note heads are in the same direction, or erasing the stems as a means of simplifying the score for a student with dyslexia. This was supported as an error reduction strategy in a study of dyslexic children (Flach et al., 2016).

### **Use of coloured notes or stave lines**

Research (Flach et al., 2016) indicates that the use of multi-coloured lines did not reduce errors in dyslexic students and in some cases produced confusion. However, using multi-coloured notes, lines and other aspects of the score is a strategy advocated by each of the books. Miles (In Chapter 8 of Miles et al., 2008, p. 73) refers to the coloured staff developed by Hubicki (2001) as an effective tool. Oglethorpe (2008) suggests that the use of colour might be a way of highlighting various aspects of a score for a dyslexic student who may find the contrast of black and white visually unhelpful (p. 51) whilst Aloba (2022, p. 25) refers to anecdotal information about the use of colour and states that 50% of her students found using colour to be a supportive strategy. However, she does not refer to the specific type of use of colour or the number of students in her sample. Recognising the individuality of each student and their preferences seems to point again to the importance of customisation and personalisation of teaching materials.

Alternative notation systems have been devised. For example, Figurenotes<sup>10</sup> (Drake Music Scotland, 2018) is a system of notation which uses colours to depict pitch, shapes to denote register and length to indicate rhythm. Kivijärvi (2019) found that the system was useful for reducing the amount of processing needed and could be an accessible tool for inclusive music teaching. More research is needed to clarify these strategies and to study the effectiveness of their incorporation to music learning strategies for dyslexic students. Additional testing and knowledge on implementation and learner responses would be useful; this could include further research on the effectiveness of colours or shapes for note heads, coloured staves, coloured paper, which colours are preferred, how to simplify or adapt scores using technology and specific strategies for different age groups.

Due to similarities in terms of challenges with reading a score of music, it is worth considering strategies used with visually impaired students. The Amber Sound Trust website (Amber Sound Trust, 2024) offers a number of strategies for instrumental teachers working with visually impaired students including developing aural skills, using demonstration and physical guidance, starting with simple pieces and building awareness of tonality gradually, carefully choosing repertoire and using improvisation. As Braille music differs from notated music, serving as a memory aid or scheme to guide the learning process with students unable to read Braille with their fingers and play an instrument at the same time, a reliance on aural memory skills is quite important. Teachers and students might find it difficult to sustain motivation if many repetitions are needed to learn music. These insights offer useful considerations for dyslexic students by focusing on music learning which is less reliant on a score of music and more focused on aural skills and memorisation.

### **2.6.6.3 Auditory**

Overy (Chapter 4 of Miles et al., 2008, p. 26) refers to temporal processing and timing deficits which affect the auditory and motor domains of the brain in dyslexia. Through the use of rhythm and music games, Overy (2008) developed a programme based on music education, music therapy and literacy resources to improve dyslexic students' timing skills whilst also taking into account challenges of 'concentration, sequencing, motor coordination and memorisation' (p. 28). Some of the activities were based on the Kodály method of

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<sup>10</sup> <https://figurenotes.org/>

music education with an emphasis on rhythm and movement. The games were designed to be repetitive and to structure learning in a cumulative way, but also to be facilitated in a sensitive and engaging way. Students were encouraged to join at their own pace. The result was that students made improvements in the areas of rhythm, phonological awareness and spelling skills (Overy, 2003). Learning a musical instrument improved a dyslexic student's 'auditory perception' according to Oglethorpe (2008, p. 58), who stated that whilst some dyslexic students do have poor auditory memory for speech, this does not affect their music abilities (p. 88). McCarthy and Ditchfield (Chapter 5 of Miles et al., 2008, pp. 49-50) state that auditory difficulties, among other potential areas of challenge, may be referred to as potential strengths and weaknesses.

#### **2.6.6.4 Memory**

Whilst Aloba (2022) briefly refers to issues with 'remembering rhythms and note values' and describes the importance of matching physical movements as a way of assisting the student to develop recall (p. 81), Oglethorpe (2008, p. 122) has a much more research-based analysis of short and long-term memory systems and how a poor working memory might impact on sight-reading and memorising music for dyslexics. The advantages and disadvantages to kinaesthetic memory approaches to learning are discussed including the use of memory aids in the form of mental or physical pictures and consideration of the 'architecture of the music' as a building block for memorisation (Oglethorpe, 2008, pp. 121-123).

In Miles et al. (2008) challenges with memory are frequently referred to in personal accounts (Lea, 2008; Wood, 2008; Ditchfield, 2008; Oglethorpe, 2008, p. 60). McRitchie-Pratt et al. (Chapter 6 of Miles et al., 2008, p. 55) observe that some dyslexics display a preference for learning or memorising a piece of music aurally. Lea (Chapter 11 of Miles et al., 2008, p. 93) considers how playing different instruments might activate the memory systems, illustrated by his difficulty with memorising music for the cello, compared with his ease at memorising pieces with guitar. This experience led him to question whether there was a difference between the direct impact of his fingers on the guitar strings compared to the use of the bow on the cello strings; the need for further research is noted.



Because of the impact of working memory on learning, research on dyslexia has focused on confirming a link between dyslexia and poor working memory (Alloway, 2009). More recent research on working memory profiles of children with dyslexia (Gray et al., 2019) indicates that poor working memory and dyslexia are not always correlated; they stress the importance of working memory assessments to build an individual profile of the student. They also note that with co-occurring conditions, a wider profile of memory deficits might be apparent. This means that teachers may observe that a dyslexic student who also has attention or coordination issues might have more severe or broader difficulties with memory than those who do not.

#### **2.6.6.5 Motor coordination**

Apart from a brief section on the challenges of writing music for a student with dysgraphia, Aloba (2022, p. 74) does not make much reference to dyspraxia/developmental coordination disorder as a co-occurring condition with dyslexia. This may be because she is a vocal teacher and does not encounter some of the issues which instrumental teachers may face. She suggests multi-sensory strategies such as clapping, tracing notes, making models of them from Plasticine and using notes made from felt to help overcome some of the challenges of dysgraphia (pp. 73-79).

In contrast, Oglethorpe (2008) dedicates an entire chapter to the issue of motor coordination and notes the overlap between dyslexia and dyspraxia identifying challenges with balance, posture, coordination of arms, hands, fingers and feet, left/right or high/low orientation, and fingering (p. 72). She suggests the importance of stressing good posture and making allowances for a need to move or change position to maintain concentration (p. 74). Further suggestions include rhythmical, cross body warm-ups, practising away from the piano or with eyes closed, the visualisation of motor tasks, tapping short rhythms from flashcards, and making allowance for breaks as eye/muscle coordination can be very tiring (pp. 75-78). Oglethorpe (2008) suggests that specific issues with piano fingering might be improved by writing the numbers on the fingers (p. 86), 'crab walking' using fingers 1 and 2 to practise using the length of the keyboard and turning the thumb under (p. 87). Scales might be practised not by synchronising hands together at first but by playing one hand at a time right after the other (Oglethorpe, 2008, p. 87).

Miles et al. (2008) refer to dyspraxia but state that it 'infrequently' co-occurs with dyslexia (p. 6). It is possible that whilst Oglethorpe (2008) observed motor coordination issues in students, the research connecting DCD/dyspraxia (developmental coordination disorder) as a co-occurring condition with dyslexia was not yet evident. Even now, the research is not conclusive. Stoodley and Stein (2013) seem to suggest that there are many inconsistencies across dyslexic profiles and that not all dyslexics struggle with motor coordination issues. However, Marchand-Krynski et al. (2017) suggest that motor coordination impairments do correlate with dyslexia and attention deficit disorders and suggest that targeted training may be effective in improving coordination in both populations. Dan (2019) suggests that 'current data do not allow us to say whether a child with mild, moderate, or severe DCD will present with a particular cluster of motor and cognitive issues' (p. 1126). Overy (2008, Chapter 4 of Miles et al., p. 26) connects auditory and motor coordination timing skills and targets them in the development of musical games with the aim of improving reading and coordination. Teaching approaches such as Suzuki and Dalcroze are recommended for their emphasis on activities which use the whole body as a means of improving motor coordination, as suggested by Macmillan (Chapter 17 of Miles et al., 2008). Stewart (Chapter 20 of Miles et al., 2008) notes the connections between rhythmic listening tasks and the activation of the motor (areas related to balance and timing) and auditory regions of the brain in brain imaging research (p. 154).

#### ***2.6.6.6 Using assistive technology***

Oglethorpe (2008, p. 123) speculates that computers might 'one day' assist dyslexics with writing music, whilst Aloba (2022) offers a comprehensive review of how MuseScore (MuseScore, 2021) might be used to customise scores. This includes how to use features of MuseScore such as creating a score, magnification and how to create specific notes, clef, time signature and background colours. Aloba (2022) includes several screenshots to illustrate how to use MuseScore to customise scores with students and to create worksheets for them to practise music theory skills in preparation for exams (pp. 121-156); this appears to illustrate for teachers what is possible with this specific technology. The notational aspects of MuseScore are free and the software is continually refined through the 'open-source developer community' (MuseScore, 2021).

Ditchfield (Chapter 9 of Miles et al., 2008, p. 79) notes that assistive technology may be pivotal for dyslexic students whilst recognising that the cost may be a barrier for some. Apostoli (Chapter 13 of Miles et al., 2008) describes their experiences as a dyslexic musician with using technology but also refers to specific hindrances such as complex software interface systems or complex text-based manuals used at that time (p. 105). The pace of technology is rapidly moving forward to make interface with programs simpler. The increase in the use of smartphones may enable recordings for practice or demonstration, but ethical and data protection issues should be carefully considered. Ward et al. (2017) highlight how distracting smartphones are in a lesson setting and suggest that although the rise in their use is inevitable, caution should be used in their application to education.

Software which focuses on isolating specific tasks or information such as identifying notes in different clefs, identifying intervals and rhythmic practice may prove useful for dyslexic students (McCord, 2004). An application such as Practice First™<sup>11</sup> (Music First, 2024), which analyses and offers feedback on rhythm and pitch aspects, might be beneficial for assisting students when they practise at home. Della Ventura (2019) notes that the challenge teachers face in using artificial technology is mainly that of leveraging the 'right balance between providing direct instruction (or texts, notes, examples, exercises, ...) to improve areas of weakness and the use of AIT to compensate for the identified learning difficulties' (p. 15). However, Della Ventura (2019) highlighted the need for teachers to continue to monitor dyslexic students throughout the learning process, including their at-home use of technology as well as during lessons.

Technology is a rapidly changing field which has the potential to be an effective tool for teachers 'to challenge the world, challenge certainties, increase awareness, shape attitudes, and foster communication' as long as the focus is on music (Himonides, 2012, p. 455). Although there is only a small amount of research available on the use of technology with dyslexic students, the literature suggests that it may be useful for listening to or making recordings of music (Ditchfield, 2008; Ganschow et al., 1994; Oglethorpe, 2008), for composing (Apostoli, 2001; Nelson & Hourigan, 2016), and through using assistive technology which translates text to audio formats (Ditchfield, 2008). Notation software may

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<sup>11</sup> <https://www.musicfirst.com/software/practicefirst>

provide the advantage to users of composing a notated score with MIDI playback, facilitating auditory feedback in the development of a composition (Nelson & Hourigan, 2016). In conclusion, technology may provide some useful ways of assisting dyslexic students in learning music, but it should not be regarded as a replacement for quality, structured teaching.

#### **2.6.6.7 Strengths**

Of the three books, only Aloba (2020) does *not* refer to strengths, instead framing dyslexia as a weakness and disadvantage. Oglethorpe (2008) states that the best advice for teachers is to 'teach to the pupil's strengths' (p. 13) and emphasises how important it is to know the student's strengths and weaknesses and to incorporate lesson planning around them. Considering dyslexia may be an advantage, the author (Oglethorpe, 2008) suggests that there are compensatory strengths in dyslexic music learners: resilience and creative problem solving (p. 8) tactile (p. 50), spatial (p. 83), kinaesthetic memory (p. 100), aural (p. 113) and musical composition (p. 123).

In Miles et al. (2008) strengths are referred to in a variety of contexts, including personal stories, teacher analysis and future research suggestions. In terms of specific strengths, McCarthy and Ditchfield (Chapter 5 of Miles et al., 2008, p. 49) discuss a young dyslexic piano student whose strengths were 'auditory and motor, family support and intelligence' (p. 49). Miles (Chapter 8 of Miles et al., 2008, p. 71) notes reasoning strengths and creativity, as well as pattern recognition. Ditchfield (Chapter 9 of Miles et al., 2008, p. 144) describes a musician using their strengths to compensate for areas they find challenging. Bishop-Liebler (Chapter 15 of Miles et al., 2008, p. 123) refers to the necessity of working with dyslexic students' strengths by 'mapping the areas that the student finds easy and difficult'. Overy (Chapter 19 of Miles et al., 2008, p. 157) contributes to the discussion by referring to research which indicates that dyslexics may have unique visuospatial abilities and discusses the need for dyslexic strengths to be investigated further through neurological research. Overy (Chapter 19 of Miles et al., 2008) indicates that with music performance using so many different areas of the brain, this may 'explain why dyslexic musicians can exhibit extraordinary strengths in some areas of musicality while experiencing difficulties in other areas' (Overy, 2008b, p. 158).

As general dyslexia research has increasingly focused on a strengths-based perspective (Davis, 2010; Eide & Eide, 2011; Everatt et al., 2008; Gilger, 2017; Gobbo, 2020; Malpas, 2017; Rooke, 2015; Shaywitz, 2003; West, 1990/2009), music education might also benefit from further analysis and research in this area. Rolka and Silverman (2015) note the importance of focusing on strengths for the following reasons: 'to promote self-confidence, academic self-efficacy, the joy of learning and to teach strategies to improve frustration tolerance' (p. 24). Useful research directions for the future may be examining how dyslexic strengths are perceived by students and instrumental/vocal teachers, how instrumental teachers identify strengths in dyslexic students and how these may be developed and used in music education.

#### ***2.6.6.8 Summary of key points for educational materials***

In conclusion, there are some key points to take forward from these materials that would inform future educational outputs. These include the significance of having materials, digital or in print, which meet current dyslexia-friendly guidelines. Material should be referenced according to an accepted standard formal referencing technique and it would be advantageous to include a glossary of the terminology used, resources and other material to signpost readers to quality sources of information about dyslexia.

The strategies that are advocated must be based on current research, and assumptions regarding dyslexia or dyslexics as a whole group should be avoided. Evidence-based teaching strategies for dyslexics which have been established in literacy teaching should be utilised in future materials; these include multisensory, structured, systematic and overlearning or repetition. Incorporating material regarding data protection and safeguarding of students is particularly important from an ethical, and legal, point of view and is foundational in building a relationship of mutual trust and respect with a student and their family.

In the case of visual stress, it is important to emphasise to teachers, parents and students that a student who complains of visual distress should be referred to an optometrist as many symptoms of visual distress overlap with refractive and oculomotor issues which might be treated with special glasses or exercises. There should be careful consideration before an instrumental music teacher recommends a SpLD assessment for an undiagnosed

student. This is beneficial only if they believe that it might serve the student to accomplish their goals; for instance, in the case of evidence needed for music exams. An underdeveloped area in these books is that of dyslexic students and their strengths in the music learning process. I have learned about and observed strengths in the areas of performing, learning music aurally, recognising patterns, using problem-solving abilities to learn musical concepts, improvising and composing, both in research (Oglethorpe, 2008; Miles et al., 2008; Rolka & Silverman, 2015; Reifinger, 2019) and in my teaching. However, the views of the learners themselves warrant further attention.

The next section (2.7.1) considers some general inclusive music teaching approaches and discusses the issue of access to provision in music education in both the classroom and individual settings (2.7.2).

## *2.7 Inclusive music teaching and access to provision*

### **2.7.1 Inclusive music teaching approaches and considerations**

Music education pedagogy in the UK has developed with the philosophy that ‘music should be available to all pupils’ (Paynter, 1982, p. xiii). However, provision in mainstream schools has not been consistent (Bate, 2020; Savage, 2021; Zeserson et al., 2014). Research has also highlighted a lack of music opportunities for students in special schools, particularly through a report which provided the impetus for the development of the Sounds of Intent music framework (Welch et al., 2009). This framework was relevant for establishing an understanding of music development, engagement, curriculum and assessment from the most basic starting points to musical maturity intending to enrich musical education, particularly for those with special educational needs (Ockelford & Voyajolu, 2020).

It is crucial for instrumental music teachers to be aware of general strategies recommended for use with dyslexic students. However, it is likewise important to note that the use of these strategies and skills will need to be adapted to the individuals and the teaching context. Variants of these skills and strategies might become important depending on the individual learner and flexibility is needed. As the teacher observes the student and their individual strengths and weaknesses, they can begin to put into practice the strategies that may promote optimal learning. This means that lesson planning and curriculum can be

tailored to unique student profiles and is well-suited to inform the teacher's approach for dyslexic students who may vary greatly in their profile of strengths and weaknesses. Bishop-Liebler (2008) refers to this process as 'building up a detailed picture of the student's learning history, mapping the areas that the student currently finds easy and difficult, and identifying their preferred learning styles' (p. 123). Advice from dyslexia general educational material suggests that establishing a learning profile may help the teacher to better understand the student and their needs, should consider the students' interests and may also help support the student's understanding of themselves (Mortimore & Dupree, 2010; Reid, 2016).

This correlates with concepts in the framework of Universal Design for Learning (CAST, 2018) which suggest that students' learning barriers might be addressed through the use of planning that focuses on engagement, adaptable use of materials, and accessible instruction. This might better allow for the flexibility needed throughout the various stages of the student's learning process as well as responding to the variability in the dyslexia population. UDL consists of guidelines for teaching which consider the students' barriers and how to overcome them. It was developed from an awareness that buildings designed to be accessible for disabled individuals were beneficial and more suitable for everyone who used them. The framework of UDL (CAST, 2018) provides checkpoints to design and plan materials for a range of students (See Figure 2.1)<sup>12</sup>. A more accessible, text-only version of the checkpoints is provided in Appendix J. The 'Key Questions to Consider When Planning Lessons' (CAST, 2020) document (See Figure 2.2) has a series of questions designed to assist teachers in reflecting on their lesson planning to consider multiple options in planning.

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<sup>12</sup> Both Figures 1 and 2 are used with permission.

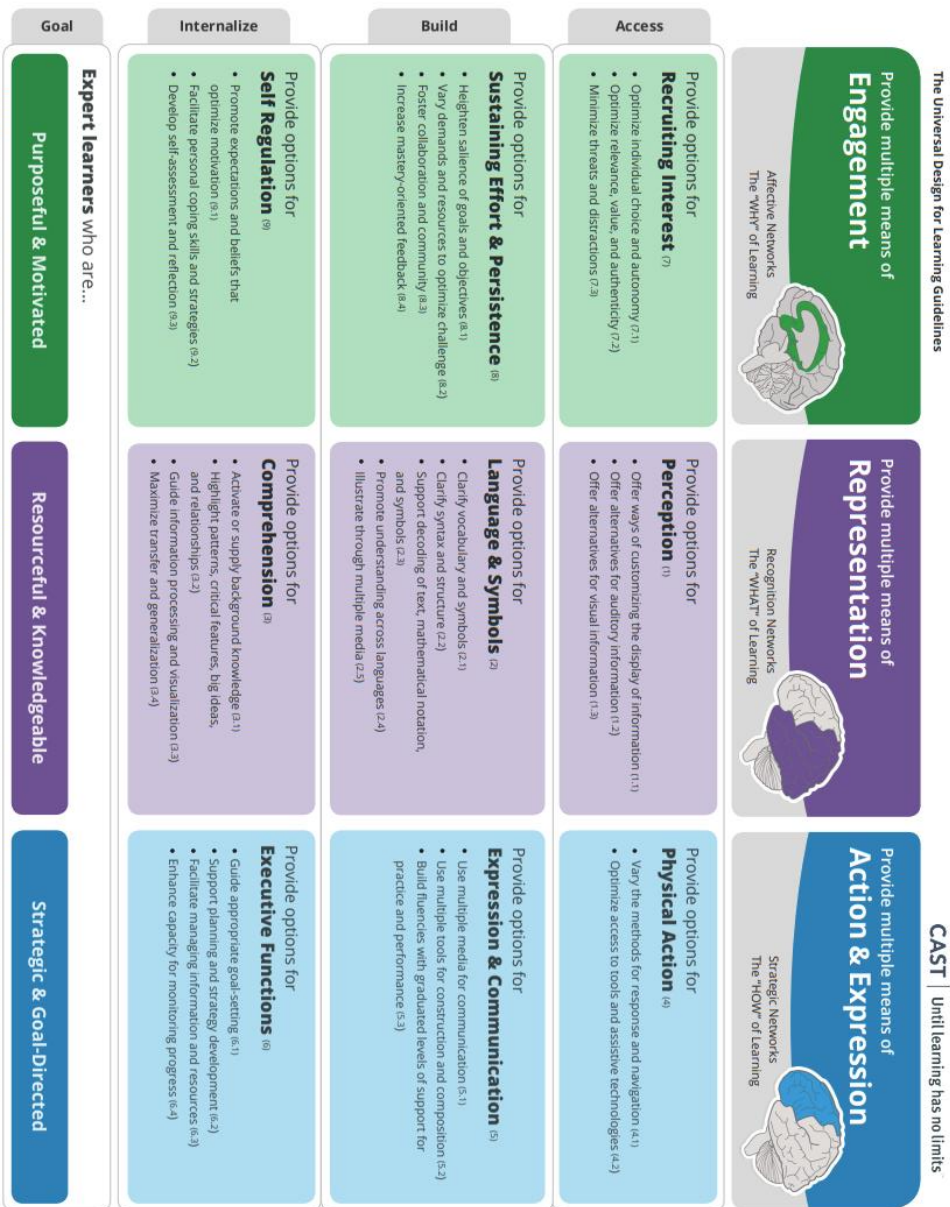


Figure 2.1 Universal Design for Learning guidelines (CAST, 2018)



# Key Questions to Consider When Planning Lessons

## Think about how learners will engage with the lesson.



**Does the lesson provide options that can help all learners:**

- regulate their own learning?
- sustain effort and motivation?
- engage and interest all learners?

## Think about how information is presented to learners.



**Does the information provide options that help all learners:**

- reach higher levels of comprehension and understanding?
- understand the symbols and expressions?
- perceive what needs to be learned?

## Think about how learners are expected to act strategically & express themselves.



**Does the activity provide options that help all learners:**

- act strategically?
- express themselves fluently?
- physically respond?

From: *Universal Design for Learning: Theory and Practice*

Available at [udltheorypractice.cast.org](http://udltheorypractice.cast.org)

For print and accessible EPUB, contact [publishing@cast.org](mailto:publishing@cast.org) or any book retailer.

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**Figure 2.2 Key questions to consider when planning lessons (UDL, 2020)**

Whilst UDL encourages many inclusive and accessible practices (the use of feedback, structured instruction, praise for effort, scaffolding, collaborating and adaptive materials), criticism of the model suggests that it overreaches in its claims to be based on neuroscientific evidence and that it is too much like an updated version of the learning styles theory (Boysen, 2024). Whilst there is an emphasis on learning materials and

instruction being offered in different formats, this may become an unrealistic and burdensome task for teachers. Parameters should be established so that the teacher's preparation time and any costs incurred are reasonable from a practical standpoint.

Concerning planning lessons, Reid (2016) suggests that 'it is important to view teaching approaches and programmes in relation to the individual and not to the syndrome, or label' (pp. 175-176) and to deliver constructive feedback in a positive and encouraging manner, particularly with sensitivity to the potential that the student may have had previous negative educational experiences (Eide & Eide, 2011; Reid, 2016). Darrow and Adamek (2018) consider that several areas can be modified or adapted for inclusive teaching, including the time given to complete a task, the degree of difficulty, the level of participation, the student's learning goals, instruments and the teaching space. Reid (2016) suggests that the learning environment including how the room is arranged, where the student and teacher sit, the lighting level, the amount of free space and type of chairs and the level of noise and stimulation should be carefully considered for dyslexic students. By asking students how to solve their difficulties, using self-reflection and working in collaboration (Vance, 2004), the teacher and student might experience more of a mentor-friend (Lehmann et al., 2007) as opposed to a master-apprentice (Folkestad, 2006; Schiavo et al., 2020) teacher-student relationship. Considerations may need to be given to young children who may not be able to communicate their needs and to adult learners who may have developed unhealthy coping mechanisms that may be barriers to communication. The setting of an instrumental music lesson provides opportunities for a number of adaptations to the learning environment, instruction and materials.

### **2.7.2 Access to provision**

In 2011, the National Plan for Music Education (Department of Education, 2011) established that music education should be available to all students in England and that Music Hubs should act as coordinators of specific expertise in certain areas, including that of inclusive teaching, and should provide recommendations for the use of assistive technology or adapted instruments as beneficial to students with specific needs. However, Gall (2021) notes that neither the National Curriculum nor the National Plan for Music Education

mention 'effective teaching strategies for Disabled pupils or ways in which assessment systems should or could take account of their additional needs' (p. 49).

A report of data on music hubs indicates a low number of students with SEN statements participating in Whole Class Ensemble Teaching (WCET) or taking part in ensembles or choirs in England in 2017-18 (Fautley & Whittaker, 2018). There may be many factors influencing this low uptake of provision for SEN students, but it is suggested that music teachers may not be adequately prepared to teach students with special needs (Gall, 2021). Many music teachers come from a conservatoire performance background and may not have had specific teacher training before they begin a teaching career; others may perform to an advanced level but have learned music with individual teachers rather than in an institutional setting (Mills, 2004; Boyle, 2020). In a survey of 330 teachers, factors such as 'quality, relevance, availability and access' related to their views of CPD (continuing professional development), and the cost of the training in addition to a loss of earnings was seen as a potential barrier (Boyle & ISM, 2020, p. 55). Some research indicates that training for music teachers which offers them the opportunity to work with students who have special needs not only increases their sense of confidence in this area but also inspires them to make adaptations that are beneficial to their work with other students (Hourigan, 2007; Van Weelden & Whipple, 2005).

A report published by Arts Council England highlighted a paucity of research on disabilities in those working in classical music, apart from concerns about limited work opportunities related to disclosure (Cox & Kilshaw, 2021). This report did not differentiate between disabilities, but it seems particularly clear that those with hidden disabilities might link disclosure with potentially adverse consequences. Students without an official assessment may be at a disadvantage. A child who wants to learn a musical instrument but has not been assessed, or even identified as having a specific learning disability, may begin lessons with a music teacher who has not been trained to identify characteristics of dyslexia. Their self-esteem might be affected negatively if their education takes place in an environment that does not consider their learning needs or attributes their difficulties to other causes. This outcome might be avoided with proper support for families and training for teachers.

This point has relevance for the implications of the current research, as it raises concerns relating to the training of instrumental teachers and how they develop their knowledge of inclusive teaching. Instrumental teachers may face a sense of isolation depending on their working arrangements; however, they may hope that certain channels available to them could offer training and information (Burwell et al., 2019). As it can be difficult for instrumental teachers to access information (Boyle & ISM, 2020), there is a role for more high-quality training and more sharing of good practice; this thesis contributes to the specific realm of piano pedagogy, with transferable value to other instrumental teaching and music teaching contexts. Teachers might benefit from opportunities to reflect on and embed these practices in their teaching with the availability of ongoing support. It is worth considering which channels might enable the greatest impact and have the furthest reach, for example, through music hubs, music unions, music exam boards, music educational organisations and educational establishments.

### **2.7.3 Summary**

The literature reviewed in this chapter indicates that there is scope for the development of learner support, strategies and pedagogy that supports a positive orientation to learning. Moreover, the need for more inclusive teaching practice is becoming an increasingly urgent matter with music hubs being required to demonstrate their commitment through the development of inclusive music strategies and the appointment of music hub inclusion leads. *The Power of Music to Change Lives: A National Plan for Music Education* (DfE, 2022) states that schools and music teams ‘should consider how they can bring in disabled musicians, music leaders and music educators, disability specialists or disabled-led organisations, to help train their staff and build an inclusive musical offer’ and encourages ‘collaboration’ between schools and organisations with this expertise (p. 43). Indeed, without opportunities to engage with music, DfE (2022) notes that young people with SEND will be denied the ‘chance to experience the joys of the subject and to progress their learning in it’ (p. 42). The development of knowledge and practice standards would be of great benefit for teachers, many of whom may not be aware of the impact of dyslexia on students and their families’ lives, and who will then have the power to improve the music learning experience for dyslexic students. A greater understanding of the risk factors for

dyslexic students, as well as promotive factors which might help students' build resilience, would offer insights as to how best to support them.

## *2.8 The research questions*

The results of this literature review highlight the limitations of research in this area and support the need for a better understanding of how teachers conceptualise the pedagogical process for dyslexic students and what their experiences might reveal about this. Thus, the first research question emerges from these considerations:

**RQ1: What are the perceptions of music teachers regarding their experiences and utilisation of pedagogical practices, including strategies, methods and material, in teaching dyslexic students?**

Due to a paucity of research related to how dyslexic students and their teachers view graded music exams, there is little understanding of their support needs in this process and how they perceive the use of reasonable adjustments in the exam setting. The second research question is a development of this theme:

**RQ2: Do adjustments and accommodations which music exam boards allow offer dyslexic students unbiased inclusion? What are the perspectives of teachers and students on this topic?**

An underdeveloped area is that of dyslexic students and strengths in the music learning process. Creativity (Gobbo, 2020; Rooke, 2015), character strengths (Kannangara et al., 2018; Rowan, 2010; Sanderson-Mann & McCandless, 2006) and high-level reasoning strengths (Eide & Eide, 2011) have been recognised in dyslexic individuals. Research on dyslexic children has found them to have greater emotional reactivity, vivid imaginations and intuitive thinking skills (Rolka & Silverman, 2015; Sturm et al., 2021). Although strengths are somewhat underrepresented in the music and dyslexia literature, aspects such as learning music aurally, recognising patterns, using problem-solving abilities to learn musical concepts, improvisation and performing have been discussed (Oglethorpe, 2008; Miles et al., 2008; Rolka & Silverman, 2015). A resource that is strengths-focused might be a useful means of encouraging the identity and positive self-concept of dyslexic students. A study of

teachers and dyslexic schoolchildren found a significant correlation between teachers' expectations of dyslexic students and students' achievements (Hornstra et al., 2010). This may affect teachers' perceptions of dyslexic students; focusing on strengths may also imbue both teacher and learner with hope and endurance through challenging times. In light of this, the third question is formulated:

**RQ3: Do teachers, parents and students perceive dyslexic students to have specific strengths? How might these strengths be utilised in the music lesson context?**

Including multiple perspectives, particularly those of dyslexic students and musicians, may further support the development of instrumental pedagogy as well as offer valuable insights from music pedagogy towards working with dyslexic learners in other contexts. Although there is a body of research on the dyslexic student voice in other areas, little has been done to explore their views on their music learning experiences. Pursuing an understanding of these may bring about an enhanced awareness of their needs and clarity as to how teachers might support them better in the learning process. Thus, the fourth question is articulated:

**RQ4: What are dyslexic students' perceptions of their music learning experiences? How might their voices be nurtured and amplified in the pedagogical process?**

The risk-resilience literature (Catts & Petscher, 2022) identifies several factors which may mediate risks for dyslexic students. The importance of parental involvement in the lives of dyslexic students as a promotive factor against risk is well-documented. However, little is understood about how the instrumental music teacher, parent and student interactions might support the development of resilience in the dyslexic student, or how these relationships might be mutually beneficial. The fifth research question emerges from this reflection:

**RQ5: What are the teacher, student and parental perceptions of the pedagogical process and roles in the music lesson context? How can these roles collaborate to collectively enable positive outcomes?**

In summary, I return to the questions asked by Morrow (2023): 'Have music education specialists thoroughly researched this issue?' and 'What researched-based solutions have

been provided to teachers so they know exactly how to help their struggling students?’ (p. 26). Teaching students with dyslexia involves more than a set formula of strategies, but rather consists of a complex relationship between teacher and student interwoven with other relationships: parents, schools and exam boards. This deserves to be studied in theory but also in practice. By examining the literature, investigating student-teacher-parent relationships from multiple perspectives and conducting cycles of action research in my teaching practice, the aim is to bring about transformative understanding and change whereby instrumental music teaching for dyslexic students may be improved and enhanced.

## **REFLECTIVE STATEMENT I: MOTIVATIONS AND CHALLENGES**

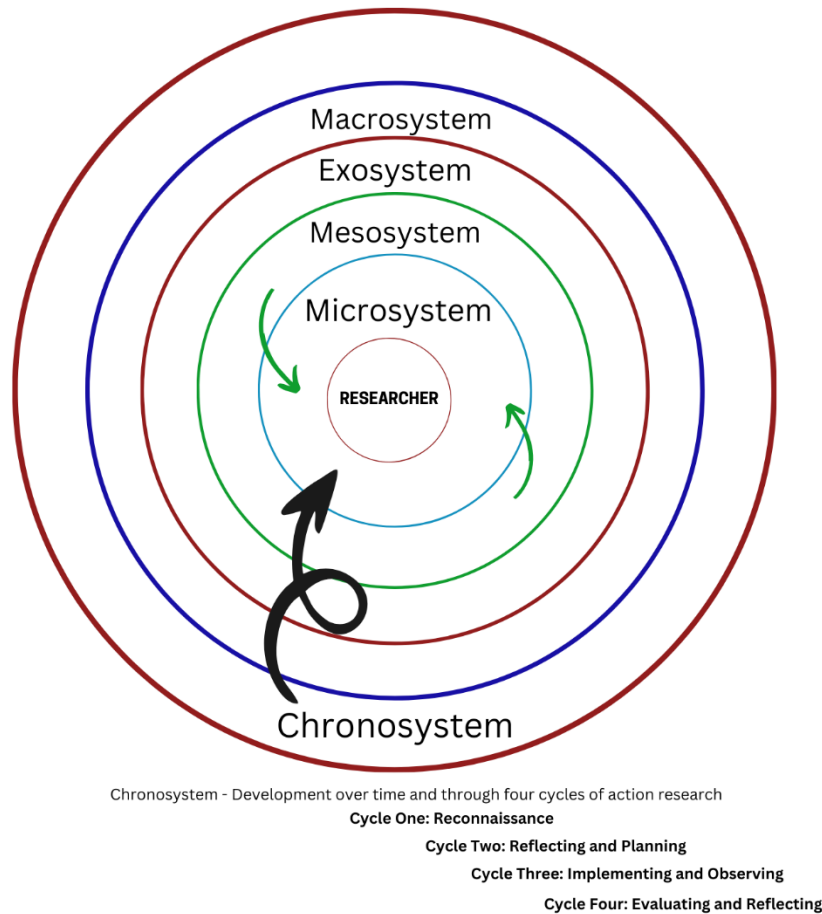
### ***RS1 Bronfenbrenner's Ecological Systems theoretical model (1979)***

In this first reflective essay, I explore my motivations for conducting action research and the challenges I faced. Secondly, I briefly describe the theory and outputs of my research. I draw on Bronfenbrenner's (1979) ecological systems theory which suggests that the interactions between individuals and their environment affect their development on a number of concentric levels. The model (See Figure RS1.1) explains these levels as concentric circles moving out from the individual at the centre, with the next immediate circle the microsystem where close (proximal) interactions take place with family, friends and teachers. Winter et al. (2000) highlight the researcher-practitioner position: 'Because I am at the centre of my research process, any accounts produced must necessarily show the way in which I have come to understand myself and some of the distorted lenses through which I view my practice' (p. 30). In the microsystem, an individual's behaviour, beliefs and values are shaped. According to Bronfenbrenner (1979), the next level is the area where these microsystems interact: the mesosystem, with the implication that these microsystems influence one another. The exosystem explains the context in which the person lives socially and includes factors like government policies, local community and media. Broader societal forces are involved in the macrosystem, the next concentric circle, and include areas like culture, traditions and values. The outermost levels represent the chronosystem, or development over a chronological period.

I also utilise Bronfenbrenner and Morris' (2006) bio-ecological system theoretical model, described in greater detail in Reflective Statement 2, which explains development through analysis of a 'process, person, context and time model (PPCT)' (p. 798). Some important aspects in the investigation of this model are that any 'components' to be studied must be 'maximally relevant' to the research questions being studied, that the PPCT model should include 'more than one proximal process' (or interactions) in order to have maximum effectiveness and that these interactions are bidirectional (p. 808). The research questions for this research (Chapter 1) relate to dyslexic students in the instrumental music teaching context and lessons (proximal processes) which took place over a four-year period. Bronfenbrenner & Morris' (2006) bio-ecological system theoretical model provides a more



detailed explanation of development at the microsystems level. The students are introduced in Reflective Statement 2. The next section details my motivation for the research.



**Figure RS1.1 Adapted from Bronfenbrenner's ecological systems theory (1979)**

### **RS1.1 Motivation**

The aim of this research is to improve and enhance the quality of teaching for dyslexic students through a process of 'reflective learning' which Moon (2004) describes as 'a purposeful framing and reframing of material in internal experience with the intention of learning' and which is also guided by relevant literature and from data collected in the course of my research. I quote McNiff's (2004) fundamental questions of action research here:

- How do I improve what I am doing?
- How do I help you to learn?

- How do I improve what I am doing for our mutual benefit? (p. 19)

These questions relate to the microsystem or interactions primarily between myself and students but also include their parents and my academic supervisor. Kember (2002) notes that other outcomes gained through action research might include the 'development of skills, changes in attitudes and the development of revised practices' (Kember, 2002, p. 92). My professional development, as a reflective practitioner, researcher and teacher, is detailed in Chapter 12. Beyond the motivations mentioned by McNiff (2004), I was also keen to provide resources which might benefit others through conferences, workshops or publications and which, I hoped, might bring about positive transformational change across levels of society, including educational institutions, music education organisations and music exam boards (Nofke, 1997). These resources and opportunities represent my development at the exosystem and macrosystem levels. At the same time, challenging my own beliefs and perceptions about teaching was, at times, uncomfortable.

## **RS1.2 Challenges**

In this section, I will discuss two distinct challenges which I faced during the course of my research: the Covid-19 pandemic and lockdown period and the vulnerabilities associated with researching my own teaching practice. When I began my research in 2018, I could never have foreseen that the Covid-19 pandemic would change so much of the landscape of my teaching practice, my personal life and my PhD journey.

### ***RS1.2.1 The Covid-19 pandemic***

This was a historic event at the chronosystem level, affecting my life in many ways, but also that of my students and their families. Viewing the videos of lessons from this time period reminded me of the feelings I had at that time of being in a type of 'survival mode'. The research I was doing was based on interacting closely with participants in the lesson context, and I felt that online interactions limited our engagement and challenged patterns of behaviour and rapport established in our previous work together. This meant that I needed to adapt to new ways of interpreting their responses and of collaborating with them (Cornejo et al., 2023). A 2020 survey of 621 teachers reported that teachers felt 'exhausted beyond measure' and struggled to keep up with the ever-changing social distancing requirements, finding also that the 'sudden shift to online required teachers to self-manage

production and delivery of online teaching and learning materials, without adequate training and resourcing' (Phillips & Cain, 2020, p. 3,5). There were concerns about students and their families in relation to IT capability with Zoom lessons, including the devices, software and camera angle; this often left me feeling a lack of control (Hall et al., 2021). I addressed safeguarding concerns by ensuring that a parent was available throughout the lesson. At the same time, it enabled me to see into student's practice spaces and to interact with their families in novel ways.

From a researcher perspective, my experience correlates with Cornejo et al. (2023) which found that women taking part in graduate studies were especially impacted during the pandemic as they sought to balance boundaries between home responsibilities and work. At that time, I had a daughter preparing to take A-level exams, a son preparing to take GCSE exams and a son in Year Five of primary school; I was teaching piano lessons to fifteen students weekly and was a graduate teaching assistant on an MA programme at the University of York. This was in addition to my doctoral research.

Campbell (2021) found that participant recruitment for their research was impacted by the pandemic, and this correlated to my challenges with finding more students to teach and more interview participants. Phillips and Cain (2020) found that many teachers felt overwhelmed and exhausted during that time, and this may have influenced their willingness to participate. There was a great deal of uncertainty about the future and loneliness as normal social interactions were interrupted. Even with disruptions in our personal lives, difficulties with the transition to online lessons and interruptions from the setting change, it was a testament to my students and their parents that they persevered with lessons. Although there were many unplanned factors which were out of my control, I also continued to be present for the students and to do the best that I could under the circumstances. Over time, I began to see benefits to online lessons regarding the balance of power in our interactions; this is discussed further in Reflective Statement 4.

### ***RS1.2.2 Researching my teaching practice***

Whilst the pandemic had an impact on teaching, there were also areas of discomfort and vulnerability involved with researching my own practice (see Chapter 4). Dadds (1993) describes this in the following:

...we may be entering into processes by which we deconstruct some basic, historically rooted views of ourselves. In such processes our existing images of the professional self will be challenged, questioned, re-thought and reshaped in some degree. These processes are necessary if change and development are to occur and self-study is to lead to new learning. We cannot escape them, nor the discomfort they may bring if we value our commitment to professional development. (p. 288)

One example of this was acknowledging the need to change my proximity to the student and reduce verbal instructions; although this was a new way of teaching for me, I recognised that this had benefits for the student's metacognitive development. These uncomfortable feelings are what Mockler and Groundwater-Smith (2015) describe as 'the unwelcome truths' of action research, meaning that a practitioner's feelings of certainty and self-confidence may be disrupted in the process and this may lead to a 'catalyst for rethinking and recasting practice' (p. 606). Another example was when a student refused to do an activity: instead of reacting defensively, I learned to develop sensitivity to their lives outside of our lessons and to recognise the impact that might have on their ability to concentrate (Reflective statements 4, 7). Dadds (2003) cautions that 'feelings generated from rigorous and close self-study can verge on the traumatic when one does not recognise or appreciate the "self" revealed by the analysis of one's practice' and further warns that 'this can lead to feelings of personal insecurity, loss and grief' which have 'the potential to be destructive' (p. 269).

For action research to be truly empowering in the sense of bringing about change, uncertainty and chaos must be accepted (Heikkinen et al., 2012). Instead of feeling that I was getting clear answers to my questions, often further questions emerged. Action research is risky (Winter, 1989) and cycles can be messy and unpredictable (Townsend, 2010). Often, I was not sure how to address the complexities that arose, nor how to make sense of them when looking at the 'supposedly' orderly cycles of action research which are displayed in models. Reflective analysis has led me to consider some shifts in my thinking which could be described as coming from 'contradictions, doubts, dilemma and possibilities' (Cunliffe, 2004, p. 38) experienced during the course of the research. As Voltaire wrote: 'Doubt is not a pleasant condition, but certainty is an absurd one' (Tallentyre, 1919, p. 232); by embracing uncertainty, I enabled myself to consider new ways of working. This is the

*phronesis* which Aristotle described, the ability to be familiar enough with a situation that I can act with practical wisdom, or as Elliott (2009) states: 'The greater the particularisation of situations the more they take the complexity of making wise judgements and decisions into account ... by throwing light on possibilities for action in other situations' (p. 8). The challenges and uncertainty of the Covid-19 pandemic and researching my own practice were unsettling at times, but as I adapted to them and received support from my supervisor, family and friends, I allowed those things to be precursors for substantive change.

### **RS1.3 Theory and outputs**

From these accounts of my teaching and development which I chart in the reflective statements of this thesis, I began to build a theory of education which culminated in a Knowledge and Practice Standards framework (see Chapter 11, Table 11.2), a foundational document which could underpin a teacher training programme. As another output, I extended Catts and Petscher's (2022) cumulative risk-resilience model of dyslexia to a new risk-resilience model for music training with dyslexic students (see Chapter 11, Figure 11.3). The purpose of this model is to enhance the understanding of promotive and protective factors which might mediate adversity and vulnerability factors in dyslexic students in the music education context. Factors may be influenced by decisions made by government policies, music hubs, music exam boards and the chronological changes that students experience as they journey through the UK educational system. The construction of a theory of education is, as I understand from Elliott (2009), 'a provisional summary of the common features of good practice across a given range of contexts' (p. 35) and Stenhouse (1979) notes that it is a 'tradition of understanding' drawn from 'an articulation of teachers' shared practical understanding' (pp. 19-20). This gives rise to the understanding of knowledge as 'systems of possibilities of action' (MacMurray, 1957, p. 198).

### **RS1.4 Conclusion**

Thus, I developed in my interactions with the student, our relationship and the strategies used at the microsystem level and in my interactions with the students' parents, my supervisors and the ethics committee; the interactions between these factors are represented at the mesosystems level. There was growth at the macrosystem and exosystem level in my shifting views on dyslexia, the early means of disseminating my

findings through presenting at the higher educational level and in workshops and conferences (see Chapter 12), as well as the production of a new risk-resilience model for musical training and a Knowledge and Practice Standards framework (see Chapter 11). This development has taken place since my PhD began in 2018 in terms of a period of time (chronosystem level). Smith (1969) refers to another Greek term for time, *kairos*, or 'opportune events', describing the 'significance and purpose of events and... constellations of events yielding results which would not have been possible at other times and under other circumstances' (p. 2). In my reflective statements, I point to specific moments, *kairos*, which have signified my growth as a teacher-researcher, and which are investigated through the 'process-person-context-time' model introduced in Reflective Statement 2 (Bronfenbrenner & Morris, 2006, p. 808).

## **REFLECTIVE STATEMENT 2: INTRODUCTION TO THE STUDENTS**

### ***RS2.1 Introduction: Process-Person-Context-Time Model***

In the following reflective essay, my focus is on the components of the Process-person-context-time (PPCT) model (Bronfenbrenner & Morris, 2006) through which interactions occur as a means of accounting for developmental growth; these ‘proximal interactions’ or ‘engines of development’ (p. 118) are positive when they produce ‘competence’ which may also ‘serve to reduce and act as a buffer against effects of disadvantaged and disruptive environments’ (p. 805). Primarily, these interactions occurred in our lessons and with the student’s parents, and as Bronfenbrenner and Morris (2006) note, those at the microsystems level influence and are influenced by one another. In this reflective essay, I draw on the PPCT model (Bronfenbrenner & Morris, 2006) as a lens through which to view contextual understanding of the process of lessons and research, my relationship with the students and their parents, frequency and duration of lessons and the lesson environment and my relationship with the students and their parents.

### ***RS2.2 Process***

The proximal processes of development, or interactions, occurred during lessons and with parents, as described in section 1.1, whilst the extended process began with teaching experiences prior to the research. My research process had four larger cycles of action research with many smaller cycles in between; I reflected on interactions (proximal processes) and then re-examined literature and interview findings in order to implement them into my teaching practice. The following figure (Figure RS2.1) shows the four main cycles (Somekh, 2006):

### **Action research cycles**



**Figure RS2.1 Action research cycles**

Oglethorpe (2008) states that teachers need ‘humility, adaptability, imagination, awareness and genuine interest’ in the student (p. 28). My initial understanding of dyslexia affecting

music learning and also of reflective practice came from what I learned as a student in the MA Music Education: Instrumental and Vocal Teaching programme at the University of York. In reflecting on my experiences teaching dyslexic students as well as another student with dyspraxia/developmental coordination disorder (DCD), I had not felt that my attempts were always successful, and this correlated with other accounts. Oglethorpe (2008) reported that after unsuccessfully teaching some dyslexic students, she suggested to their parents that they try a different instrument or quit altogether (p. 19). After hearing this approach confirmed by another teacher, I made a note in my reflective journal:

I recall feeling dissatisfied when others mentioned that there were times when you had to tell dyslexic students that 'learning the piano was not for them'. I have no doubt that this was grounded in desiring the best outcome for students, but it also made me wonder how that conversation might affect a dyslexic students' sense of self-concept and even feeling of control over which instrument they should play. I question if this is my role as a teacher.

Drawing on the literature review in this thesis (Chapter 2), I understood that dyslexia teaching strategies such as multisensory, overlearning, personalised, systematic and structured, may be effective for dyslexic students. As these were drawn originally from literacy contexts, I wondered how they might be utilised appropriately in the music lesson context as music is already, by nature, a multisensory activity. Based on my experiences and my understanding of the literature, the following questions began to emerge:

1. What is the best approach for planning their lessons? What sort of balance should there be between number and duration of activities? How do I make sure they are learning in a systematic and structured way that suits them best?
2. How much repetition would they be able to tolerate and still maintain their interest and motivation in learning? What type of components should be repeated, how often and how should this be incorporated into the lesson?
3. How might I identify and build on the strengths that I saw in my students?



4. How would I build profiles and collaborate with the student to establish the best ways of working? Where are the boundaries between my roles and responsibilities and theirs? How do I help them to practise at home?
5. How might technology be used to support the learning process?
6. Was it wise to encourage them to take exams and should we use access arrangements? How would I prepare them for using those in the exam context?
7. How do I support the student's emotional well-being in the learning process? How do I manage my own emotions as the teacher-researcher in these lessons?

In the reflective statements of this thesis, I give evidence for how I addressed these questions. My experiences correlated with findings from interviews with instrumental and vocal teachers in my research who reported that they found a lack of relevant information in relation to appropriate training for music teachers or practical resources (see Chapter 6). I drew on literature suggesting that the development of learner profiles might assist a teacher in creating a more individualised approach (Reid, 2016) and as a starting point, I created profiles based on my observations of the students. The following section introduces the students with the learning profiles which I developed when the research commenced.

### *RS2.3 Person*

Bronfenbrenner and Morris (2006) categorise person characteristics as 'disposition, resource and demand'; these might influence immediate interactions but also may act as predictors of future development (pp. 795-796). According to this model, they can be seen on a spectrum as either developmentally 'generative' or 'disruptive' characteristics; examples of disruptive characteristics range from 'impulsivity' to 'apathy' whilst generative characteristics relate to 'curiosity', perseverance and eagerness to learn (p. 810). Essentially, an interest in interacting with the environment then leads to engaging in more complex activities, the outcomes of which, along with environmental factors, affect what a person believes about themselves, according to Bronfenbrenner and Morris' (2006) conception of 'developmental generative disposition' (p. 810). With my students, a resource characteristic

was dyslexia which could be seen as both a limitation and an asset. I was aware of the tremendous responsibility that my attitudes and actions would have as an influence on how the students viewed themselves and their capabilities in our lessons. The students viewed themselves through lenses created by parental and societal influences, positive and negative, as well as their past experiences at school. Demand characteristics relate to those which influence developmental change by the way in which they cause a reaction in other people or the environment around the person. In the following sections, I introduce my students. Future reflective essays describe some of the developmental growth which occurred throughout the research, but this reflective essay is presented as an introduction and a starting point.

### **RS2.3.1 Introduction to Ben**

Ben (a pseudonym) started taking lessons in 2017, at the age of nine. He was still in primary school at the time and our relationship has continued through to supporting him with GCSE music in secondary school. I was acquainted with Ben's family in various social contexts and I taught other family members before Ben began having his lessons. Ben's family had observed some discrepancies in his school work and suspected a SEN issue; however, he did not receive a formal assessment until 2019. From our first lesson, Ben was eager to learn, curious, responsive in lessons and willing to attempt practising at home. He had a very supportive home environment with parents who had professional backgrounds which lent themselves to an understanding of diverse needs in children, negotiating with authorities and a sensitivity to the challenges Ben may face. They were willing to offer support during practice in the form of reminders or encouragement, but neither parent had previous musical experience.

I observed that Ben had a good sense of pitch, good aural memory, excellent coordination skills (he rides a unicycle) and was quite confident when performing for others. The challenges that I observed in Ben had to do with low confidence at certain times; this seemed to manifest itself in an apparent lack of effort in activities which he normally solved by himself or in a reluctance to attempt a task in which he might not be guaranteed success. The other challenge I noticed was that he frequently forgot his music books. He also had some difficulty remembering the starting place on the keyboard although he would simply

transpose the song and play it from memory wherever his hands tended to land. I include the following excerpt (Video excerpts are not available to readers due to GDPR and participant confidentiality) of one of our earliest recorded lessons as a means of introducing his personality, to give an understanding of our rapport together and to illustrate his approach to the task of playing his pieces.

### **RS2.3.2 Introduction to Alex**

Alex began having lessons in 2018, at the age of eight. Lessons began whilst he was in primary school, with early educational experiences having been quite negative until he moved to another primary school with a more supportive ethos. I was acquainted with Alex's family socially for a number of years before we began having lessons together. His parents are supportive in ensuring that he attends lessons regularly, but neither have musical experience so assistance with practising at home is somewhat limited. His mother has dyslexia and was aware early on that he had similar traits. According to Alex's mother, she often relied on his father, who is not dyslexic, to fill in forms and support in other ways to compensate in areas she finds challenging. Her early educational experiences, which took place outside of the UK, were overwhelmingly negative as she described a system in which there was little awareness or understanding of dyslexia. His mother understood the importance of 'drilling' (repetition) for reading skills and had worked extensively with Alex outside of school. I observed that Alex was confident, resilient, exuberant, ambitious and eager to demonstrate what he had practised or learned. He often shared with me experiences from school, positive and negative. Some behavioural characteristics included impulsivity displayed by pressing the pedals, interrupting or changing topic quickly. Other challenges which I observed were related to processing rhythm and pitch playing together, synchronised to a pulse. Usually notes were correct, but rhythm might be read or remembered inaccurately. In this excerpt (Video excerpts are not available to readers due to GDPR and participant confidentiality), I wish to give a glimpse into our interactions with each other and to introduce you to his personality.

### ***RS2.4 My observations of these lessons***

In my observations of these lesson excerpts, I observe that Ben rarely looks at the score, although he can play his pieces successfully once he remembers where to begin. This is after

we have done a substantial amount of work on identifying notes on the keyboard and the staff, as well as quite a number of directional games. By asking him to play the duet more quickly, I am trying to evoke the feeling of Hungarian dances where there is an increase in tempo as the piece progresses, and at the same time I am curious as to whether or not increasing speed might test his memory and skill. In reviewing the video, I think it would have been more useful to play it at a tempo where he was comfortable without adding any additional pressure for speed. I also note that he was not looking at either piece throughout this excerpt, but was focused mainly on the keyboard.

In Alex's lesson, I observe that he is even more fidgety than I recall during our lessons. I let students know that I have a rule not to stand on the pedals or press on them when they are not playing a piece and he had to be reminded of this frequently. This was quite irritating to me, as I was concerned that the pedals might become damaged. In the future, I might have him stand to play pieces or have him turn away from facing the pedals so as to remove the temptation. At the same time, I am touched that he was excited and wanted to share with me about recognising a C chord at his church. I also think he was trying to convey that he was glad that I am not the kind of teacher who expects perfection and is flexible. Taking the time to explain patiently when there are questions about exams is sometimes a time consuming but important process. It is easy to forget how much of that knowledge might be taken for granted. Alex, who enjoys video games, is highly motivated by attaining levels and achieving points.

### *RS2.5 Time*

The lessons included in this study for research purposes took place over a four-year period. I taught the students prior to commencing research (with Ben starting lessons with me in 2017 and Alex in 2018), so neither were complete beginners when we started the research process. Part of the reconnaissance cycle of the research process involved implementing information I had learned from previous teaching experiences in order to refine the research questions and consider specific foci for future cycles of research. Bronfenbrenner and Evans (2000) refer to the term 'exposure' which describes the contact between myself and the students in terms of 'frequency, duration, timing and intensity' (p. 118). Throughout most of the research, we had 30-minute lessons. With Ben, we had some lessons which

were like guided practice sessions for 15 minutes two or three times per week. Generally, the lessons took place weekly during the thirty-eight weeks of school term. Many of the lessons were video recorded, following prior discussion with the students and informed consent from their parents (as both students were minors), in order to help both myself and the student feel comfortable with the feeling of being recorded. I usually had weekly contact with the parents, in the form of short chats after lessons or in WhatsApp message form. The next section describes the context (1.2) in which the lessons took place.

### *RS2.6 Context*

The context was the environment in which the processes took place. Initially, these lessons took place in the context of my home, although once lockdown was instituted during the pandemic, they took place in a digital context on an online meeting platform using the application Zoom until face-to-face meeting was allowed again. In my home, I am fortunate to have a room which is dedicated for music lessons and it contains bookshelves and pedagogical resources, an upright piano, boxes containing instruments and games, a small desk and a guitar which hangs on the wall. The lighting is soft. One wall is dark blue, and the other walls are light grey. Normally, the piano is kept regularly in tune, although during lockdown I was not able to have a tuner come to my home. Initially, I sat in a chair next to the student who sat on the piano stool. However, during the pandemic, physical proximity was limited due to online lessons and when we returned to the same teaching space we had varying social distancing requirements in the room. When life resumed more normally, I found that there were advantages to allowing more physical space between us which I detail more in Reflective Statement 4. I have an adjustable piano stool, but also a backed chair for students who need additional support. Within these lessons, as with all of my teaching, I tried to keep the atmosphere encouraging and positive, so that even if they have not practised much during the week, students still feel they have achieved something significant during the lesson. I tried to convey to my students the sense that I am interested in their lives beyond piano lessons, and I was privileged to be able to hear about experiences they enjoy and their challenges at school.

### *RS2.7 Conclusion*

Developmental growth, according to Bronfenbrenner and Morris (2006), occurs through 'proximal processes' leading to either 'competence' or 'dysfunction' (p. 118). The notion of competence implies that the learner has acquired knowledge and can integrate specific skills and conduct their behaviour in a way that produces growth in other areas as well. Dysfunction, on the other hand, would indicate that growth is impeded by ongoing challenges with skill acquisition and behaviour management which also affects different areas of activity. These concepts, of course, relate to my learning and pedagogical development as a teacher as well as to the learning of the students. The aim of this research was to enhance and improve the quality of piano teaching for these two students in such a way that they would be able to use areas of compensation and areas of strength as a buffer against their challenges and that this might, in turn, also positively affect their self-belief and promote metacognition and self-regulation leading to competence.

## Chapter 3 RESEARCH DESIGN

This chapter outlines the philosophical position of social constructivism as the theoretical framework underpinning this research. The justification for the methodology of action research and flexible cycles of obtaining data are summarised. Qualitative methods to gather data include semi-structured interviews, observations, video evidence from lessons and a questionnaire. The means and procedures for data analysis are discussed and issues of reliability and validity are considered.

The research aims are the focal point for beginning a discussion on research design and methodology. As mentioned in Chapter 1 (1.2), the overarching purpose of this research is to improve and enhance the quality of instrumental teaching for dyslexic students. By developing a better understanding of dyslexic students and the approaches which aid them in learning music, including through researching my own practice as a piano teacher working with dyslexic students, a secondary goal would be to generate resources which may be beneficial for students, parents, teachers, educational establishments and music exam boards. Some of these resources are presented in Chapter 11. Of particular importance in this research is the empowerment of the student voice which might inform their collaboration with the teacher and support the teacher's understanding of the student in a mutually beneficial process.

### *3.1 Theoretical framework – Social constructivism*

To understand how research will have meaning and how the data will be interpreted, it is important to consider the researcher's paradigm. A consideration of the meaning of 'paradigm' and its importance in the methodological framework of my research begins with examining the definition. A paradigm is described as 'a loose collection of logically related assumptions, concepts and propositions that orient thinking and research' (Bogdan & Biklen, 1998, p. 22) or a way of seeing the world that 'frames a research topic' and consequently influences our thinking and approach to the topic (Hughes, 2010, p. 35). Fraser and Robinson (2004) interpret the paradigm as a 'set of beliefs about the way in which particular problems exist and a set of agreements on how such problems can be investigated' (p. 59). Paradigms are belief systems and constructs, according to Guba and Lincoln (1994, p. 108), who developed three defining questions to distinguish types of

inquiry: ontological question ('What is the form and nature of reality?'), epistemological question ('What is the nature of the relationship between the knower or would-be knower and what can be known?') and the methodological question ('How can the inquirer go about finding out whatever he or she believes can be known?') (p. 108). The philosophical perspective that knowledge is socially constructed, described by Crotty (1998) as the understanding that 'truth, or meaning, comes into existence in and out of our engagement with the realities in our world' (p. 5), establishes the underlying theoretical framework for my research.

### *3.2 Discussion of positivist, interpretivist and pragmatic approaches*

My approach was a combination of interpretivist and pragmatic, corresponding to my interest in people and how they relate to each other, in which I seek to understand 'how their worlds are constructed' (Thomas, 2009, p. 75). Whilst the following section compares the interpretivist with the positivist approach, the pragmatic approach refers to an 'individual decision maker within an actual real-world situation' gaining an understanding of 'the multiple factors involved in people's actions in a given situation' (Salkind, 2010, p. 1073), which resonates with my position as teacher-researcher.

The positivist approach views the world as being based on universal laws which explain everything that occurs around them (Hughes, 2020). The theory of positivism originated with French philosopher Auguste Comte who sought a scientific methodology which would define laws of human behaviour in the same way as other sciences (Tekin & Kotaman, 2013). Positivists believe that obtaining an understanding of these universal laws comes through observing and describing phenomena and causes; they use scientific research methods to measure their outcomes. The limitations to this position include the fact that measuring human 'intentions, attitudes and thoughts' and producing an absolute theory of knowledge about them is not achievable given the diversity in human behaviour (Hammersley, 2013, p. 24). Social phenomena are too complex to be described in absolutes and quantitative research alone does not allow for the intricacies and complications of social situations. However, the relativist ontology of interpretivism does allow for multiple meanings rather than scientifically measured truths and is a way of gaining a deeper understanding about a unique setting rather than generalising society (Cresswell, 2007). An



interpretivist position allows that there are multiple perspectives and that situations are 'fluid' and are 'richly affected by context' (Cohen et al., 2011, p. 17). In this case, rather than scientific measures being used to reduce the research to generalised theorems, 'thick descriptions' which allow for the complexity of these situations are most useful (Lincoln & Guba, 1986, p. 77); the emphasis is on 'Verstehen' – the researcher seeking to understand the situations and feelings of others (Khalifa, 2019). Interpretivism also places an emphasis on individualisation as opposed to generalisation, and this is vital considering the context of this research and the diversity that occurs within the dyslexic population.

The concept of situating theory within a practice, or praxis, was drawn from Aristotle's concept of *phronesis* or 'practical wisdom'; this way of thinking challenged teachers 'to realise their educational values in complex practical situations' (Elliott, 1989, p. 85). Schön (1992) describes competence as being able to perceive and take the right course of action in a particular context. In this way, the knowledge or truth is embedded in personal situations and open to being reinterpreted in other contexts. Salkind (2010) indicates four guiding principles in pragmatic research: 'accept chaos in interrelationships among variables; seek an understanding based on human experience; view a problem as a complex problematic situation; and promote activism, democracy, and policy formulation' (p. 1073). Practice-based research allows for the application of these interpretations to bring about change. Salkind (2010) also notes that pragmatic researchers are not looking for fixed solutions, but rather recognise 'problematic situations' and attempt to improve them through their research (p. 1074). In my research setting, I recognised that the resources for instrumental teachers regarding teaching dyslexic students were sparse; this led to the objectives of improving my understanding of dyslexia in the music educational context, encouraging discussion and generation of new resources within the field, and supporting developments to my own teaching practice. In the following sections, I will explore the action research as a methodology (3.3) benefits (3.3.1) and constraints of action research (3.3.2), detail the methods of data collection (3.4) and data analysis (3.5), describe how the reliability and validity of the research will be evaluated (3.6) and discuss ethical issues (3.7).

### *3.3 Action research methodology*

This section details my design frame of action research in greater depth. The most important consideration in choosing research methods is that they must answer the research questions (Denscombe, 2008). According to Whitehead (1989), the key question for initiating action research is ‘How do I improve my practice?’ (p. 41). The definition of a practice is ‘a form of socially established cooperative activity that involves characteristic forms of understanding (sayings), modes of action (doings), and ways in which people relate to one another and the world (relatings), that hang together in a distinctive project ... and answers the question “What are you doing?” while they are engaged in practice’ (Kemmis et al., 2014, p. 155). The purpose of my research is defined as two-fold: the improvement and enhancement of the quality of instrumental teaching for dyslexic students in the context of my piano studio practice, and the generation of resources which may benefit teachers, parents, students, organisations and institutions. The choice of action research as the methodology for this study stems from the benefits and flexibility offered. Somekh (2005) described action research as occurring through a ‘series of flexible cycles’ which:

...consist of partnerships between participants, transpire in a natural setting, initiated by a desire for transformative change, emphasises self-reflection, requires the researcher to have a broad understanding of the existing literature but also situates the action research in a comprehensive frame of reference, promotes influential development and change. (Somekh, 2005, pp. 6-8)

Thus, qualitative research approaches were the most appropriate research method for obtaining data which would enable a depth of understanding of the practical music educational contexts and concerns involving dyslexic students, their parents and teachers. These were from a variety of sources including my lesson plans, observations, reflective journal, questionnaire, video evidence and semi-structured interview transcripts as well as data collected from an evaluative focus group. Following a discussion of the rationale for using action research including benefits and limitations of the methodology, I outline the methods of data collection (3.4) in greater detail.

# Action research cycles

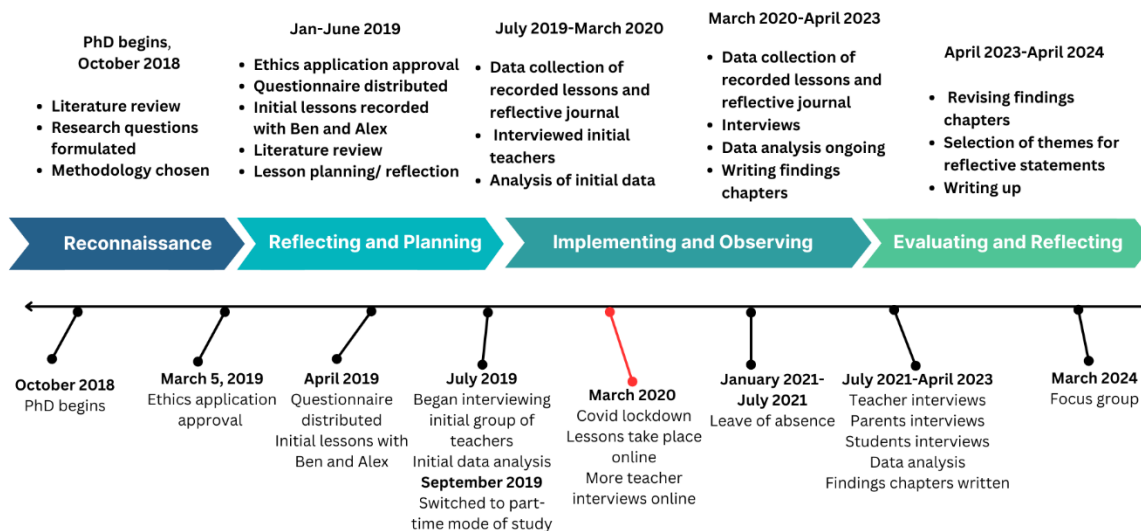


Figure 3.1 A timeline of the research process showing cycles of action research

## 3.3.1 Benefits of action research

Action research methodology has been used in many fields but is particularly suited to professions such as education and healthcare as it is characterised by ‘reflexivity, collaborative sense-making, and finding meaning in feeling’ (McLeod, 1999, p. 20). There are many benefits to action research. Laprise (2017) writes that action research ‘challenges assumptions we may have about our teaching and our students’ learning and, through the collection and analysis of data, can either show us that what we are doing is working or prompt us to find an alternative approach’ (p. 28). Action research can help teachers develop their reflective practice (Sowa, 2009) and overcome barriers in their teaching practice. Nofke (1997) describes three potential motivations for teacher-researchers: the desire to understand and improve their teaching, to disseminate the knowledge with others and to transform society through positive changes. It can be seen to ‘improve a teaching practice’ (Elliott, 1991, p. 3), but also to develop a ‘capacity for discrimination and making judgements in complicated human situations’ (Carr & Kemmis, 1986, p. 223). It seems particularly appropriate to use this methodology, as an understanding of dyslexia in the music learning context is limited, as discussed in the literature review. Dyslexia is a complex condition with many variable factors which occur across a spectrum in individuals. Action research allows for informed plans to be tested directly in the teaching context in order to

establish if the theories work in a practical setting; a benefit is that it allows for personalisation and therefore specific relevance.

Action research allows researchers to document progress using records. Kemmis et al. (2014) identify the following changes that can be recorded: 'changing activities and practices; changes in the language and discourse in which we describe, explain and justify our practices; changes in the social relationships and forms of organisation which characterise and constrain our practices; and redevelopment in our mastery of action research' (p. 14). Denscombe (2014) refers to action research as having four characteristics: 'practical, change producing, cyclical and participatory' (p. 176). The following sections explore the integration of these characteristics in this research.

### ***3.3.2.1 Practical aspects of action research***

The practical nature relates to issues with dyslexia and music learning which I observed in my teaching practice. Geiger (2016) describes action research as 'a practitioner's research that is performed in order to improve one's own performance', which 'involves a group of people collecting evidence and making decisions regarding their performance, attitudes, and beliefs, in order to understand them better and to improve them' (p. 12). Through dilemmas in my teaching practice, I realised that there were limited practical applications available to music educators from the extensive research in related interdisciplinary fields: educational, cognitive, neurobiological, psychological and general dyslexia research. The issue was that I saw a practical need for my professional development regarding dyslexia and related factors. As a teacher, I believe that there could be increased understanding and an improvement in the resources available to instrumental teachers about dyslexia. I also believe that there have been advances in related fields which could impact music education for dyslexic students. Variables which can impact effectiveness include the teacher's connection with the student, the student's responsiveness and psychological state, co-occurring conditions, curriculum content and structure, flexibility, manner of delivery and a strengths-focused approach as discussed in Chapters 2 and 3. These are practical areas with great significance for dyslexic students.

### **3.3.2.2 Change-producing aspect of action research**

Action research is intended to produce ‘change (action) and understanding (research)’ (Dick, 1997). It is intended to be a bridge between practical aspects and theoretical research (Somekh, 2006). The following changes were anticipated from this research: to enhance my teaching practice through greater awareness of the needs of dyslexic students, research findings and available resources; to improve music lessons for dyslexic students, and to provide a basis of understanding leading to potentially transformative impact in the field of music learning and dyslexia.

Stenhouse (1984) distinguishes reflective teaching from action research by describing the latter as ‘a systematic enquiry made public’ (p. 77). This research is informed by an extensive literature review (Chapters Two and Three), a qualitative study investigating the views and practices of other instrumental teachers, parents and dyslexic music students, and observations made in the context of teaching two students with dyslexia in my piano teaching practice. Swanwick (2012) describes acquaintance knowledge as ‘a way of knowing’ as opposed to distinct knowledge and states that acquaintance knowledge is ‘multilayered, intuitive and attitudinal’ (p. 330). Having a relationship over a period of years with the two students in my teaching practice was a distinct advantage in the development of this ‘way of knowing’ across seasons of development in their lives and mine which also included the Covid-19 pandemic.

My actions were initially taken from knowledge of the literature and past teaching experiences, but as I began to interview teachers and teach the students, the complexity of dyslexia, when it came to music learning, became even more apparent. As this developed, I became more aware of the importance of observing and teaching my students as individuals and avoiding assumptions about dyslexia. Based on my interviews with dyslexic music students, as well as discussions with my students about negative school experiences, I tried to develop more responsiveness to the individual in my teaching but also began to acknowledge limitations in my knowledge, or acquaintance, of the students. Having a strong relationship with the parents in each case enabled other perspectives when responses from the students were ambiguous. Having the opportunity to review lessons showed me where my responsiveness and flexibility might be improved, and I attempted to improve this in later lessons. This knowledge has informed the application of scholarship to my own

teaching practice through the method of action research. Lewin (1946) visualised action research as cyclical steps of action and reflection which need to be adaptable to respond to needed change. In my research, this continuous loop of feedback enabled a flexible yet structured approach to investigate dyslexia and music learning and to collect robust data that would evidence the improvement of my teaching practice (see Figure 3.1 for a detailed timeline of the research).

### ***3.3.2.3 Cyclical aspect of action research***

Action research is described as having ‘cycles within cycles’; for example, one interview may raise new lines of inquiry which may need to be fed into future interviews (Dick, 1997, p. 1). Planning includes the literature review, interviews and knowledge which feed directly into the action of teaching; this produces observations of results which feed into the next cycle of planning. Following the next cycle of ‘action’, additional literature may need to be examined and included in the literature review. Kemmis and McTaggart (1988, p. 5) developed a model of the ‘action research spiral’ which illustrates the iterative process of planning leading to action with reflection leading to revised plans in a continuous evolution. Gibbs’ (1988) model of reflection on experiences also informs my research. This model elaborates reflection through a cycle of ‘description, feelings, evaluation, analysis, conclusion and an action plan’ (Dye, 2011, p. 230). This allowed for more personal reflections and a deeper awareness of the feelings of participants in the research. As I evaluated my teaching experiences, this led to an analysis of what might improve the situation and allowed for reconstructed plans to bring change in future cycles. Critical reflection on past cycles brought clarity to future planning in a flexible, yet concrete way.

### ***3.3.2.4 Participatory aspect of action research***

Action research has an important element of being participatory. My role was to participate as initiator, director, teacher and researcher. Building trust, connection and credibility with other stakeholders, especially students, was essential. With the desire to foster a rich and creative learning environment, I gave careful attention to students’ concerns, ensured that our interactions were consistent and centred the lessons on students and their goals. Quality of relationships was very important, as was sensitivity to ethical issues, clear role boundaries and the flexibility to adapt and change. These are discussed in section 3.7 in more detail. Other participants included teachers, parents and dyslexics with music learning

experiences and those with expertise in inclusion and music education as contributors and shareholders in the study. Academic supervisors contributed through advising and refining the research strategy and output.

### **3.3.2 Limitations of action research**

Action research may raise questions about wider contexts in the ecological strata of the student's life, for example, in their home, with teachers at school, and concerning music exam board practices, existing research and government policy. This may cause disruption to the status quo by suggesting that changes are needed. However, if authenticity is the aim, discomfort and disruption are necessary over a teacher's desire to prove their own success. Fielding (2004) suggests that teachers ask themselves the following questions, which are quoted below:

1. How confident are we that our research does not redescribe and reconfigure students in ways that bind them more securely into the fabric of the status quo?
2. How clear are we about the use to which the depth and detail of data is likely to be put? Is our more detailed knowledge of what students think and feel largely used to help us control them more effectively?
3. Are we sure that our positions of relative power and our own personal and professional interests are not blurring our judgements or shaping our advocacy? (pp. 302–304).

Whilst these were not comfortable questions to ask throughout the research, for the sake of authenticity and trustworthiness, they should be considered. Some limitations in action research may arise from a teacher's need to feel certainty and to justify their actions, rather than interrogating accounts with rigour. In Chapter 4, these assumptions are articulated as a means of considering their impact on my teaching accounts. By acknowledging and reflecting on critical incidents, support from advisors and seeking advice from the student's parent, I also sought to mitigate these limitations.

## ***3.4 Methods of data collection***

According to Whitehead and McNiff (2006) the motive for collecting data 'is to generate evidence to support and test a claim to knowledge (theory)' (p. 63). Drawing a connection to the aims of this research, I sought to collect data which showed how I developed my teaching practice with dyslexic students. I also sought to collect data from multiple sources as a means of triangulation; my aim was a robust evidence base from multiple perspectives (Elliott, 1991). Hopkins (1993) emphasises collaboration in the collection of data, believing that teacher-researchers' relationships with others should be mutually trustworthy and supportive. The key methods of data collection were a questionnaire, observations and reflective journal entries, video recorded lessons, interview and focus group transcripts.

The Reconnaissance stage was the review of key journal articles, books and other sources of information about dyslexia and music education (Chapter 2). As there was no research available on students with dyslexia taking music exams, I produced a questionnaire for dyslexic students to collect data on their perspectives of music exams, including their experiences obtaining information about examination board accommodations and use of access arrangements and reasonable adjustments for which they might qualify. Following ethical approval (section 3.7) I began video recording my piano lessons with two students with dyslexia. The purpose of recording these lessons was primarily to establish where my practice was situated at the beginning to be able to show how it improved over the research period. The next stage involved interviewing instrumental teachers who had experience teaching dyslexic students. Incorporating the results of the interviews and literature reviews, I sought more participants for lessons. However, possibly due to the onset of the Covid-19 pandemic which necessitated online lessons, I was unable to expand my sample of students with dyslexia in my teaching practice beyond the two initial students.

Understanding and nurturing the student's voice was a key component of my research in my own teaching, but also as reflected through the interviews with dyslexic participants who had music learning experiences. Throughout the PhD, I kept detailed written notes on supervisory meetings, casual discussions with other teachers, discussions with parents, notes made when observing my lesson videos, and notes on lesson plans and reflective observations of teaching. In the following sections, the data collection methods are examined in greater detail.



### **3.4.1 Lesson planning and observations**

Lesson plans were a natural starting point for the research, as they detailed methods and strategies which I wanted to use and provided indications of repertoire and other material used. As the cycles progressed and change occurred, it was helpful to refer to the record of these lesson plans and to make reflective notes. Using the Universal Design for Learning framework (CAST, 2018) which accounts for recruiting student interest and motivation, adapting curriculum and materials, as well as supporting self-regulation and executive functions (aspects of particular interest for students with special educational needs). This framework enabled an examination of inclusive teaching practices against the backdrop of the literature on instrumental music teaching strategies for dyslexic students. Teaching observations were recorded in a journal which provided the basis for critical reflection of lessons (see sample reflective journal entry in Appendix J); these included ongoing notes on each lesson as well as observational insights from studying videos of my teaching (See section 3.4.4)

Research observations consisted of written notes in the following categories: 'my own perceptions, others' perceptions and behaviour' (Smith & Rolledo, 2018, p. 53). Behavioural observations comprise those made of video-recorded lessons, lesson planning and assessment of lessons. These included teaching notes and reflective journal entries which include these perceptions as well as the pedagogical process with which they are intertwined (see 3.4.5). Some observations provided the opportunity for first-hand accounts of what occurred in the setting of the natural social situation of the piano lesson. Other observations were unstructured and consisted of descriptions of 'conversations, settings, participants, events, behaviours and participant activities' (Cohen et al., 2011, p. 553). My own perceptions included my written notes on reflections on teaching and those which detail casual conversations with other teachers and supervisory staff. Feedback from research presentations was also incorporated. The notes were typed and were written as soon as possible after the observed events. Each note contained the date, the time, the setting and the participants. Participant's comments were indicated by their name and quotation marks. The perceptions of others include student's reflections, interviews, responses to questionnaires and casual conversations with others. My approach was inductive and therefore started with general observations from the data which emerged

into more focused themes. Thomas (2006) describes the purpose of an inductive approach as aiding 'an understanding of meaning in complex data through the development of summary themes or categories from the raw data' with this analysis derived from iterative review and my interpretation of the data (p. 3).

Morrison (1993) refers to the following observable settings which provide evidence: 'physical, human, interactional and programme settings' (p. 80). The physical setting refers to the environment in which the observations take place: in this context, the setting refers to piano lessons. The human setting refers to the things that make participants unique and how they are categorised in the setting: in my research, this was myself as the teacher, with students, parents, experts and critical friends as part of the other categories. Interactional settings refer to the 'formal, informal, planned, unplanned, verbal and non-verbal' interplay between teacher and student (Cohen et al., 2011, p. 543). The programme setting refers to the curriculum applied in the lesson setting. The lesson plans enabled me to establish a chart for structured observations during lessons. In addition, the questions from the Universal Design for Learning 'Key questions to consider when planning lessons' document (See Chapter 2) helped me to reflect on more inclusive practices for my lesson planning and delivery (CAST, 2020). When video material (See 3.4.4) was reviewed, it was useful to compare the lesson plan (See sample lesson plan in Appendix K) and the actual lesson, to link to objectives and to consider how my students were responding.

### **3.4.2 Questionnaire**

A questionnaire was used to collect data from a wider population of dyslexic students, beyond the scope of the piano students in my research, in order to obtain information regarding their perceptions and experiences of music exams. The key objective of this research was to ascertain firstly whether or not students were able to obtain access to information about music exam reasonable adjustments and accommodations, and secondly, whether they felt that the accommodations and adjustments provided them with an equitable exam experience. Prior to beginning the questionnaire, respondents were required to acknowledge that they were informed about the purpose of the research, ethical issues of confidentiality and anonymity, and how the data would be stored and used. The questions asked are included in Appendix E. There are advantages and disadvantages to

the use of questionnaires, with the possibility of collecting data from a large number of participants being the foremost advantage whilst the main disadvantages are that they lack flexibility and cannot be adapted to individual participants, they may be difficult to design and the rate of response may be low (Patten, 2016).

Geographical constraints justified the choice of using questionnaires. I trialled a pilot version of the questionnaire with teaching colleagues, a PhD student with dyslexia and with my supervisor, revising aspects which were suggested in their feedback. The questionnaire could be read with a screen reader and would allow for contrasts and backgrounds to be adjusted by the user, but it is also possible that the layout or the length might nevertheless have been a barrier for someone with dyslexia. I followed web accessibility guidelines (WCAG 2.0, 2024) for the questionnaire, but in some cases that may not have been sufficient to enable ease of completion by all prospective participants. The electronic questionnaire was created in Qualtrics and was distributed via an anonymous link distributed to dyslexic students via a call for participants through the British Dyslexia Association music committee<sup>13</sup>, the Curious Piano Teachers group<sup>14</sup>, the local European Piano Teachers Association network<sup>15</sup> and through social media. The distribution period was designed to follow music performance examination periods so that experiences were fresh in students' minds. My telephone number and email address were available for those who desired further information or preferred a telephone or in-person interview. In either case, anonymity was assured.

### **3.4.3 Interviews**

As a means of expanding my knowledge of experiences, teaching techniques and strategies which could be utilised with dyslexic students, I conducted interviews with instrumental and vocal teachers possessing experience of teaching students with dyslexia, parents of students with dyslexia and individuals with dyslexia who had experienced music lessons. There are several advantages and disadvantages to interviews as a data collection method. The main advantages include the opportunity to record and analyse participants' perspectives and to

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<sup>13</sup> <https://www.bdadyslexia.org.uk/advice/children/music-and-dyslexia>

<sup>14</sup> <https://thecuriouspianoteachers.org/>

<sup>15</sup> <https://epta-uk.org/>

allow for flexibility in the dialogue between the researcher and participant, with the chance for follow-up and clarification questions. The main disadvantages concern the demands of time in recruiting participants, arranging and recording the interview and transcribing it (Hopf, 2004).

I sought participants from the University of York Music Department's instrumental and vocal teaching staff, the European Piano Teachers Association, the British Dyslexia Association music committee network and via relevant social media networks. Often participants would recommend other potential participants; this was usually due to an established, interconnected relationship and the referral lent credibility to my research. This non-probability sampling technique is referred to as 'snowball sampling' and is often used when respondents are difficult to locate or may struggle to trust the researcher (Check & Schutt, 2012).

Using my research questions as the basis for the questions asked in the semi-structured interviews, I sought to learn more about their perceptions of and experiences with dyslexia. I also asked about background information, general life and educational experiences to provide context and history in a developing narrative. I gave each interviewee the opportunity to review their interview transcript in order to ensure that meanings had not been misinterpreted or misunderstood. Participants were advised that they had two weeks to review the transcript and or it would be presumed that they approved. This technique of 'member checking or participant validation' helps to guard against researcher bias, and also encourages the 'co-construction of knowledge' as the respondent has the opportunity to participate by changing or adding to their accounts (Birt et al., 2016, p. 1802). As a way of improving rigour and enhancing trustworthiness in research, member checking is one of the validation methods used in qualitative research (Lincoln & Guba, 2015; Doyle, 2007). The interviews were transcribed, anonymised and coded for analysis (See 4.5 Data analysis; interview questions are located in Appendix H).

#### **3.4.4 Video-recorded lessons**

Video-based fieldwork was used to record and analyse piano lessons in this research. Jewitt (2012) states that 'just as becoming a researcher requires learning how to undertake 'observational research' even though that person can 'see', it is necessary to consider how

to use video effectively for research purposes even though a person may be able to use a video camera' (p. 2). In this section, the benefits and disadvantages of video recording are discussed, as well as considerations for its effective use as a research tool. Video recording has benefits and constraints. It has the advantage of preserving data that can be analysed later: verbal and non-verbal communication, the materials used in the lesson and the teaching styles employed (Marsh & Mitchell, 2014). Another advantage is that interactions might be understood in the natural context of the piano lesson. In addition, the video recording is a tool which can be edited and shared with others, allowing them to enter into the experience as it occurred. It allows the researcher to review the experience so that fresh insights might be obtained and enables reflective observations and the development of new insights after multiple viewings (Marsh & Mitchell, 2014).

The disadvantages include the significant amount of time required to record, view, edit and analyse the video recording. However, this limitation may be overcome by refining and using focused data that has been sifted through cycles of research (Jewitt, 2012); for example, pertaining to specific themes. A video recording is also somewhat restricted due to what it shows and what it does not show. As a lens can only show one angle, there might be elements which are not captured in the recordings. Goldman (2014) discusses four criteria for addressing issues of partiality. There must be a sense of presenting the whole situation in detail 'wholeness/particularity', a feeling of 'being there and being with' the participants in the video, events must be shown in an honest representation of 'chronological verisimilitude' and the video needs to acknowledge the 'perspectivity' of the person responsible for filming it (Goldman, 2014, p. 32). By recording as many lessons as possible with my students, I aimed to avoid a fractured picture of their experience but also to acclimatise them (and myself) to the feeling of being filmed. This might allow us both to feel less self-conscious than if we were simply having 'special' filmed lessons which occurred infrequently.

Considering the issue of reliability, I asked students to share their observations during lessons as to specific strategies we had used and to give their feedback. This provided an important opportunity to allow the student's voice to be heard in the analysis and to consider the meaning that they may have drawn from events and situations in the natural setting of the lesson context. I used a laptop or a phone on a fixed stand for in-person

lessons and I used Zoom cloud recording for online lessons. Following the lessons, I downloaded the lesson to a secure password-protected Google Drive folder to maintain safe storage. This method was relatively unobtrusive and was utilised only after discussion with the students and their parents in advance and after written consent was obtained. Data analysis of the videos is described in greater detail in section 3.5.

My goal was to have the participants and the piano keyboard central in the video. I arranged the camera so that body language could be easily observed. I turned the camera on after we greeted each other, and turned the camera off in order to allow us to have a few moments without being recorded at the end. Access to participants was negotiated by giving them an information sheet and consent form well before the lessons were due to be recorded. They had the opportunity to ask questions and discuss any issues which concerned them before they gave their consent to video recording. As discussed in section 3.7, parents or guardians of minor students gave their permission following the provision of an information sheet and an opportunity to ask questions about the research. The videos were stored on password-protected programs on Google Drive and the University of York Filestore. As the researcher and teacher, I was responsible for recording the lessons. To manage the data, I created a log of significant moments (video and timestamp) to summarise the narrative and context of the student's development and my growth as a teacher (as evidenced in reflective statements in this thesis).

### **3.4.5 Reflective journal**

An important aspect of the cycle of action research is reflection. A journal may provide not only the opportunity for researchers to develop self-awareness but also qualitative data to be used within action research. Journals may also enable teacher-researchers to develop self-awareness (Phelps, 2005) and may serve as a bridge between theory and practice enabling a documentation of improved learning (Dyment & O'Connell, 2011). Bashan and Holsblat (2017) maintain that reflective journals are 'valuable to student teachers for developing metacognitive abilities and for promoting their self-orientation and responsibility for the processes of their personal and collaborative learning' (p. 2). The following factors were considered in the reflective journal: considerations of motivations for the behaviour of myself and the students, interpersonal dynamics, new questions for

teaching and research and how they might be implemented into plans of future action. New connections and links were made when examining and reflecting on the evidence collected. Schön (1992) described how practitioners:

...frame the problem of the situation, they determine the features to which they will attend, the order they will attempt to impose on the situation, the directions in which they will try to change it. In this process, they identify both the ends to be sought and the means to be employed (p. 165).

The process of reflection enabled a deeper processing of events and the opportunity to make connections in order to build explanations or theories.

### **3.4.6 Evaluative focus group**

Focus groups may be a beneficial way of considering the transferability of research (Lincoln & Guba, 1986) and may consist of an expert panel who bring insights to the theories produced by the research in an evaluative way (Chioncel et al., 2003). A focus group is a small group of participants chosen by the facilitator, who moderates the discussion, and the purpose is to examine aspects of research and evaluate them (Stewart et al., 2007). This might enable feedback which adds additional insights into how findings might be utilised or disseminated. There are some benefits and drawbacks to using a focus group. The advantages include the openness and interaction with participants which enables the collection of valuable data and allows new ideas to emerge (Stewart et al., 2007). However, some of the challenges include participant recruitment and the dynamic of the group which may limit an open and authentic discussion from developing (Chioncel et al., 2003).

In the evaluative focus group for this research, participants were identified for their expertise in inclusive music education. The participants were sent information and consent forms in advance of the meeting; once those were returned, they were sent a brief which identified the research aims and questions. At the meeting, participants were presented with some of the findings from the research and the risk-resilience model. Following this presentation, they were asked to evaluate the model and to consider its relevance to inclusive music education in the UK and how these findings might be disseminated, or

transferred to other settings (for example, music classrooms or music hub environments). The findings of this focus group are discussed in Chapter 11.8.

### *3.5 Data analysis*

Data analysis provides the means of organising and interpreting the collected data, in order to understand meaning from the data. The process for this in an action research context is described by Coghlan and Brydon-Miller (2014) as ‘mining’, ‘interrogating’ and ‘interpreting’ the data to report the ‘contribution to knowledge and theory’ (p. 2).

Another consideration in action research relates to the question of when it is appropriate to begin data analysis. In conventional research forms, data is compiled and analysed at the end of the collection period. According to Burns (2010), action research data must be analysed from the start of the research project. In Kemmis and McTaggart’s (1988) spiral model, data is examined throughout the process. The data was analysed by referring back to the research questions and asking whether or not they were being answered by the data that was collected. If not, the challenge was to consider how to change the data collection to collect the evidence needed. This is described as ‘iterative sampling’ and ‘is valuable for its sensitivity to the richness and variability of data and for ensuring data address the study’s objectives’ (Mills et al., 2010, p. 504).

The starting point was the literature review, the student questionnaire and the initial lessons with my students. From the literature review, I understood the complexities of dyslexia, emerging dyslexia research, recommended teaching approaches and strategies, the importance of the identity-construct of individuals with dyslexia and parental involvement, as well as developing a comprehensive understanding of the music and dyslexia research and suggested strategies for teaching music to dyslexic students. This enabled me to identify gaps in the literature and to formulate the research questions for this study. It also underpinned my choice of the use of Universal Design for Learning (CAST, 2018) as a framework to support inclusive lesson planning and delivery and informed my choice of strategies for initial lessons.



The video data were analysed in the following way. After recording the video, fresh observations about the lesson were recorded in my reflective journal. I used those as points of comparison when I reviewed the video again and included timestamps for critical incidents, students' reactions, opinions and body language and I identified strategies and methods which worked well, ways in which the lesson might be improved and how I might take action to make those changes (Marsh & Mitchell, 2014). I viewed the lesson again in a database which enabled me to make links from the timestamps enabling me to cross-reference specific materials used or keywords to identify commonalities or differences between lessons. The lessons were coded by date and labelled so that I could quickly locate them. This was helpful in correlating reflective observations with specific videos and the development of complex themes emerging as the videos were watched a number of times.

Results from the student questionnaire enabled me to see that further enquiry was needed in the area of music exams and I extended my knowledge of this by including questions for teachers and students in the interview schedules. I wanted to enhance my understanding of teachers' and students' views. Initial teacher interviews (Participants 1-11) took place before the Covid-19 pandemic. I reviewed the data that I gathered following these initial interviews, the initial cycle of teaching and literature review; and this information informed further teaching cycles and future interviews and lessons. For example, I familiarised myself with the material and identified emerging themes, then selected materials and strategies based on the development of my understanding in those areas. I carefully recalled situations, contexts, behaviours and participants from rich and detailed descriptions; this enabled the creation of more informed action plans in the following cycles. As previously mentioned, an inductive analysis means that I expected themes to emerge during or after I collected the data, being open to see what the data revealed and using robust processes for data analysis in which I considered aspects concerning my own potential bias as a teacher/researcher (see Chapter 4). In this way, I hoped to prevent pre-formed assumptions from manipulating the direction of the analysis.

The next step after critical reflection in the data analysis process was to identify emerging patterns to make sense of them and to theorise how to inform future action. My standards of judgment are my deep beliefs about the values I consider important. Articulating those standards of judgement enables me to draw meaning by selecting data which evidences

how I have demonstrated my values in my teaching (See 3.5.1), but also to scrutinise data where I did not demonstrate my values, as these moments further informed my reflection and analysis (See Reflective Statements 1-7). I value the student's voice, collaboration, flexibility and spontaneity in the learning process. In addition, I value the facilitation of strengths-based learning, inclusivity and equitable learning environments.

### **3.5.1 Thematic analysis**

In qualitative research, thematic analysis is a means of recognising and analysing patterns in the data. Braun and Clarke (2006) state that an advantage of using thematic analysis is its inherent 'flexibility' whilst the challenge lies in maintaining a clear and transparent process of analysing the themes for the purposes of trustworthiness (p. 78). Another benefit to using thematic analysis is the possibility of finding perspectives that were not anticipated (King, 2004). Braun and Clark (2006) identify six phases in thematic analysis: 'familiarising yourself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report' (p. 87). Nowell et al. (2017) state that this is an 'iterative and reflective process that develops over time and involves a constant moving back and forward between phases' (p. 4). This is particularly true for action research as each cycle reveals new data that needs to be analysed and compared with the previous analysis. This is then applied to teaching and re-assessed. An example of a section of coded material which was analysed after the first eleven interviews is available in the examiner's folder. There are examples of this type of re-assessment in my Reflective Statements (see Reflective Statement 6). I acknowledge my role as a researcher in collecting the data and in organising the data in ways which demonstrate how experiences, events and perspectives operate in a socially constructed environment. I aim to answer the research questions by interpreting the experiences of teachers, dyslexic students and parents and analysing this data, along with my experiences of teaching dyslexia students, to inform my teaching practice and support ongoing pedagogical practice. This theoretical approach is held in tension with an inductive approach of creating initial codes and allowing themes to emerge from the data.

### **3.5.2 Steps of thematic analysis**

By immersing myself in the data collected, I was able to identify descriptive codes and from these allow themes and subthemes to emerge (Coghlan & Brydon-Miller, 2014). The first step was to transcribe transcripts, read and re-read all text data, or in the case of the recorded lessons review the recording, to ensure that I had a good understanding of the material and context. Through this iterative process, themes were refined continually in order to validate their importance to the research. As described in section 3.5, videos of lessons were reviewed and reflective observations were recorded, including initial impressions and later reflections with specific action points as well. I sought to identify themes which captured the nuances within the data and tried to avoid overly simplifying complex issues. I then sought to bring the data together and to review and refine the themes that were emerging.

I also used MAXQDA software to compare frequency amongst themes. I do recognise that in qualitative analysis, frequency is not the only indicator of the importance of a theme, and I used my 'researcher judgement' to make the final selection (Braun & Clarke, 2006, p. 82). It was important to consider areas of contradiction within my findings and to consider how these might be resolved. Due to the diversity of a condition like dyslexia, it was important not to make generalisations, but instead to consider how findings related to the aim of improving my teaching practice by acknowledging variation of the condition and diversity in the context of individual circumstances. I continued to return to the raw data as I established a hierarchical structure and connections between the codes. These subsets also relate to the questions asked in the interviews (Section 4.4.3). I determined which themes had the greatest number of subsets; I also considered how to make use of categories with limited data.

The next step was to write a detailed analysis (See Chapters 6-8) based on the refined themes. In the reporting of my research narrative, I was careful to delineate the three following categories: 'the events, the voices of the participants and the interpretations of the researcher' (Coghlan & Brydon-Miller, 2014, p. 6) to allow readers to form their own objective analysis.

In addition, as mentioned in Chapter 1, I wrote a series of reflective statements to be included in my reporting of the research at specific points in the process. The aim of these reflective statements was to demonstrate transparency in the incorporation of analysis of the research into my own teaching practice.

### *3.6 Establishing validity*

Whilst validity from a positivist perspective comes from that of a value on 'truth', standards for the interpretivist and pragmatic perspective extend to terms such as 'credibility and workability' and 'outcomes that go beyond knowledge generation' (Herr & Anderson, 2005, p. 59). Lincoln and Guba (1986) refer to this as trustworthiness. According to McNiff and Whitehead (2006), validity in action research relates to the 'trustworthiness of a claim' to knowledge whilst 'legitimacy' is to do with 'getting the claim accepted in the public domain' (p. 155). One of the aims of action research is to give evidence for development in my teaching practice.

Wood (2010) reiterated the need to demonstrate an improved practice, but 'rather than being a "recipe" of how to do things, it is a sharing of what worked for a particular researcher working in a particular context' whilst also exploring applications to wider contexts (p.115). These contexts might be applied to show validity through 'innovative insights into practice' which might be relevant for 'other practitioners to improve their performance' and may be used by the researcher to demonstrate 'professional development and innovation' as well as to detail their roles as practitioner-researcher by describing their accounts with 'a very high level of professional creativity, sensitivity and responsibility' (Winter et al., 2000, p. 32). Part of the process of validation involves producing authentic accounts; this is supported by internal critique taking place through regular supervisory and thesis advisory meetings in addition to self-reflection, as detailed in section 4.4.5.

Dadds (2008) refers to an empathetic validity in practitioner research which may refer not only to the development of compassion and understanding between the teacher, the student and their family, but also to promote change through dissemination in extended spheres of influence. Related specifically to my research, the development of empathic awareness is discussed in greater detail in Reflective Statement 7, and my presentations for

conferences and workshops, in addition to the resources presented in Chapter 11, show my commitment to enhancing empathy for students with dyslexia and their families to a wider audience.

Herr and Anderson (2005) refer to five validity criteria which are linked to the goals of action research. For example, the goal of generating new knowledge corresponds to the criteria of 'dialogic and process validity', whilst a focus on 'action-oriented outcomes is related to 'outcome validity' (Herr & Anderson, 2005, p. 54). The development of learning for both the researcher and the participants corresponds with 'catalytic validity' and findings that are relevant to the setting being studied correspond to 'democratic validity' criteria; finally, the goal of a 'sound and appropriate research methodology' corresponds to 'process validity' (p. 54). In my research, conducting the research in the natural setting of the lessons, gathering data from multiple sources and using processes that meant I captured data immediately, in addition to participant validation of accounts, were means by which I enhanced the validity of my research. This thesis details my claim to internal and external empathetic validity (Dadds, 2008) in Reflective Statement Seven. This mixture of validity measures is designed to enhance robust scholarship in action research.

### *3.7 Ethical issues*

There are many ethical considerations to be made in action research. Human participants require particular considerations which are set out in the British Educational Research Association's guidelines (BERA, 2018). The following ethical factors had to be considered in my application for ethical approval from the Arts and Humanities Ethics Committee (AHEC) at the University of York: potential conflicts of interest, methods of data collection, participants, informed consent, vulnerabilities, risk analysis, data protection, data storage or transfer, and anonymity. In this research, participant minors and dyslexic students were subject to more stringent guidelines from AHEC to protect their vulnerabilities. In this research, the term 'participants' refers not only to students participating in the teaching aspect of the action research but also to parents, teachers, dyslexic students and dyslexia experts who were interviewed or participated by completing a questionnaire. This also includes stakeholders who took part in the focus group.

As a piano teacher, I have an Enhanced Disclosure and Barring (DBS) certificate<sup>16</sup> which is proof that I do not have a criminal record in the UK. Additionally, I am registered with the General Data Protection Register<sup>17</sup> as I have records of some student and family details on file. In my teaching practice, guardians of minor students are required to fill in a form which declares that I do not obtain or store any information which I do not use for a specific purpose; I have maintained a rigorous and responsible attitude to my research as well as to these aspects of my teaching practice. I hold memberships with ISM<sup>18</sup> (International Society for Musicians) and EPTA<sup>19</sup> (European Piano Teacher's Association) and I follow their regulations for safeguarding students and guidelines for best practices in teaching. An example of that can be seen in the EPTA risk assessments that were done before resuming face-to-face teaching following the initial lockdown period in the UK as the result of the Covid-19 global pandemic (see Appendix L).

As stated above, one of the initial steps of my research project was to obtain ethics approval from the University of York's Arts and Humanities ethics committee. 'Informed consent, privacy and confidentiality, protection from harm' are the three tenets of ethical research (Norton, 2009, p.181). In order to give informed consent, participants must have knowledge of the research project, and the potential risks and benefits. The researcher must make it clear that consent can be withdrawn at any time and that confidentiality is assured. Guardians of young participants must also give their informed consent.

Interview (See Appendix C) and focus group participants and piano lesson participants (Appendix B) received a relevant information sheet (available in Appendices A-D) and consent was obtained by their written permission (in the case of minors, written permission was obtained from the parent/guardian). It was made clear in each case that consent was entirely voluntary. In my teaching practice, parents/guardians were given the relevant information/consent forms and were given time to read them, consider the information and

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<sup>16</sup> <https://www.gov.uk/government/organisations/disclosure-and-barring-service/about#:~:text=An%20Enhanced%20DBS%20check%20is,working%20in%20the%20Gambling%20Commission.>

<sup>17</sup> <https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/data-protection-principles/a-guide-to-the-data-protection-principles/>

<sup>18</sup> <https://www.ism.org/>

<sup>19</sup> <https://epta-uk.org/>

ask any questions. It was made clear that a decision to participate did not need to be made immediately. If they gave permission, the student was approached with an age-appropriate information sheet and consent form. Students were given time to discuss the research with their parents and no pressure was placed on them to come to a decision or to agree to participate. I needed to ensure I was not creating what Norton (2009) describes as a 'social penalty' or pressure to take part. My ethics applications are included in the examiner folder. Likewise, no pressure was placed on the interview and focus group potential participants to take part but they were given the information sheet and consent form and given an opportunity to ask me questions prior to the meeting.

Concerning the piano pupil participants and their parents, information should be accurate regarding both risks and benefits, as downplaying the risks or overemphasising the benefits might lead to the participant feeling a lack of trust in the researcher (BERA, 2018). The students were given an information sheet that was relevant to their age and understanding (Appendix M). Potential risks included personal safety, risk of accusation of harm/impropriety or potential conflicts of interest (BERA, 2018). By maintaining ethical and safe boundaries in the teaching setting these risks were greatly reduced. These good practice guidelines were continually informed by my professional memberships in the Incorporated Society for Musicians and the European Piano Teacher's Association. In addition, content from previous lectures that I attended on safeguarding and ethics as part of the University of York MA in Music Education: Instrumental and Vocal Teaching informed me of foundational principles of safeguarding and ethical issues involved in instrumental teaching.

By maintaining openness and being transparent about the use of personal information, guaranteeing anonymity, safely storing data and the reassurance of trust between the investigator and other participants, these risks were mitigated (BERA, 2018). The risk of adverse publicity to the University of York was minimised by the information sheets provided to participants which detailed the measures taken to protect their data and anonymity and through which it is made clear that consent is completely voluntary and may be withdrawn at any point in the research (BERA, 2018). It must be clear to the participant how long the data will be stored, how it will be stored, who has access to it and where it will be kept (BERA, 2018). Data protection was secured by the use of pseudonyms and safe

storage in password-protected files. As previously noted, data for this research was stored on Google Drive and University of York Filestore, and will be retained for ten years in accordance with the University of York protocol. The data consists of text documents, video recordings and audio recordings. Teachers were given access to their own interview transcript, and were informed that my supervisor and the thesis examiners would have access to the data for guidance and assessment purposes. This was part of the informative phase of action research, which was intended to enhance the validity and reliability of the results.

Consent forms were edited for storage purposes so that the participants' names were not viewable. In the research data, pseudonymised names prevented the identification of the participants. The video material was edited using Adobe Premiere Pro<sup>20</sup> and Capcut<sup>21</sup> to blur identifying characteristics of participants using facial recognition anonymising software to preserve their anonymity. Discussion of the research with parents and students was done with sensitivity to minimise any risk of embarrassment or anxiety. Utmost care was taken to extend empathy and understanding of each individual case.

The protection of participants, in interviews and in teaching, from harm referred mainly to self-esteem or embarrassment. I was aware that some students might be uncomfortable talking about their dyslexia diagnosis, or about possible learning challenges which might have revealed difficulties indicative of dyslexia. In my piano teaching studio, I was careful to establish a safe learning environment for the students. If participants were uncomfortable being filmed in the context of a lesson, an open discussion of the potential benefits of the research, in conjunction with the knowledge that consent could be withdrawn at any time, ameliorated discomfort, though I was of course prepared to stop recording at any point. As the teacher, I have a duty of care to ensure that students are safe in the learning environment. This includes thinking about how to minimise any risks to them and also to myself and my reputation.

Obtaining informed consent from participants without any sense of coercion or consequence if refused and maintaining confidentiality were two of the ways in which these

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<sup>20</sup> <https://www.adobe.com/uk/>

<sup>21</sup> <https://www.capcut.com/>



risks were minimised. Students were made aware that they were able to withdraw their consent at any time for any question or activity with which they did not feel comfortable. During interviews, it was explained that they did not have to answer any question they chose not to, did not have to offer an explanation for this and would not face any consequences. Clarification of how anonymity was preserved included discussions of video editing to prevent recognition and the use of pseudonyms in writing. In addition, the benefits of the research were explicitly stated, but participants also understood that they could withdraw their consent at any time up until the submission of the thesis.

Benefits to participants included piano lessons taught in a collaborative way which incorporated their needs and strengths, were guided by their goals and aspirations and considered findings from the most recent dyslexia research. Participants also benefited from the knowledge that this research may provide future contributions to the field of music and dyslexia.

### *3.8 Conclusion*

McTaggart (1994) states: 'Action research is a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality, justice, coherence and satisfactoriness of (a) their own social practices, (b) their understanding of these practices, and (c) the institutions, programmes and ultimately the society in which these practices are carried out' (p. 317). In Chapter 3, the theoretical framework of social constructivism which underpins this research through an interpretivist and pragmatic approach in cycles of action research has been examined. Action research is practitioner-research which takes place in social contexts. Villacañas de Castro and Banegas (2020) describe how 'practitioners can learn from academic forms of scientific research, but above all they must learn from (and transform) each other and themselves' (p. 10). The benefits and limitations of action research and the rationale for using action research methodology have been considered. Qualitative methods of data collection and data analysis, and measures for establishing validity and ethical issues involved in the research conclude this chapter.

## Chapter 4 THE ROLE OF THE RESEARCHER

### *4.1 The role of the researcher*

In this chapter, the role of the researcher in the research process will be examined; this includes the challenges, benefits and ethical issues, going beyond the considerations provided in Chapter 3. Literature on qualitative research has emphasised the importance of establishing the positioning of the researcher in the research process (Cresswell, 2007; Robson, 2011) with Robson (2011) describing the role of the researcher as an 'instrument' (p. 133). Consideration of the researcher's role reflects a growing societal 'consciousness of situational identities' and 'the perception of relative power' (Angrosino, 2005, p. 734), particularly when this involves participants with vulnerabilities. In my research, participants included minors and those with Specific learning differences (SpLD) which underscored the importance of carefully considering ethical concerns and potential power imbalances in order to avoid any negative effects from participation.

In undertaking this research, I acknowledge that personal experiences in my piano teaching practice influenced my decision to research music education and dyslexia in the instrumental lesson context. During the research process, I positioned myself as an insider-researcher, a teacher, an observer and a facilitator of both the teaching practice and research interviews. Further considerations of these positions are described in the next sections.

### *4.2 Consideration of being both an insider as well as an outsider researcher*

Being an insider and an outsider may offer differing perspectives and advantages whilst also entailing specific risks. The concept of 'insider' was identified as a structural concept of knowledge production (Merton, 1972) involving unique and privileged knowledge of a group, whereas an 'outsider', as a non-member of the group, does not have this access (p. 36). Others suggest that these positions exist across a spectrum and depend on boundaries that might change, and that the researcher tends to fluctuate between insider-outsider throughout the course of the research (Griffith, 1998). I was situated as an outsider due to being non-dyslexic and in section 4.4, some of the preconceptions and potential bias that I

disclosed before the start of the research are considered. I was positioned in the research process as an insider as the teacher within the lesson environment and in the instrumental pedagogy context. As an insider I might become too close to the situation to be objective, and, as the outsider I might miss the nuances and details that an insider would capture. I participated 'inside' the research as the teacher, and, as a 'friendly outsider' (Greenwood & Levin, 2007, p. 124), I facilitated data collection and analysis and produced reports of my research. In the next sections, the benefits and challenges of my role as researcher will be explored.

### *4.3 Advantages to being an insider-researcher*

Three key advantages of being an insider-researcher include a better understanding of the setting, involvement in interactions that would naturally occur and a closeness to the setting (Bonner & Tolhurst, 2002). Piano pupils were accustomed to my role as the teacher, and this was a natural environment for them, and for myself due to many years of teaching experience. I had access to the pupils' lived experiences as they shared them with me. There were clear expectations and patterns of work during lessons; I had developed an understanding of the needs of the individual students.

My teaching took place in a one-to-one setting either in person or online (due to the constraints of the Covid-19 pandemic) in which students often shared experiences from their lives that were unrelated to music learning. This insider knowledge helped me to empathise with them and their challenges in navigating life, and musical instrument learning, with dyslexia. Students and their parents trusted me as the teacher in the relationship. Palmer (2006) suggests that insider-researchers are less likely to cause distress or disruption to participants. Because of this rapport, I was familiar with them and their families, including sensitive information relating to their learning and in some cases, family lives (Sike & Potts, 2008).

These relationships were built over a period of years in which camaraderie and trust had been established; an outsider would not have had the same depth of understanding and insight into the student's lives. This enabled me to immerse myself in their worlds and to collect rich data. Geiger (2016) posits that 'close relationship and ongoing long-term interaction with the research participants' may be an indication that the conclusions

reached are 'authentic and reflect the participants' perspective' (p. 17). In the next section, mitigation of the challenges based on the researcher's positioning in the research will be discussed.

#### *4.4 Challenges for the insider-researcher*

Robson (2011) accentuates the necessity of being a quality 'investigator' with experience in the following skills: 'question asking, good listening, adaptiveness and flexibility, grasp of the issues and lack of bias' (pp. 133-134). The relationship between the researcher and participants is an important aspect of action research. I was operating as both instrumental teacher and researcher and had to navigate the tension of those two roles in a productive way. Maiter et al. (2008) elaborate on the importance of reciprocity in this relationship, defining it as 'an ongoing process of exchange with the purpose of creating and maintaining equality between parties' (p. 305). The challenge of building reciprocity with participants, in addition to ongoing personal reflection in my teaching practice, was an important part in helping to uncover and understand any biases I may have. Trust and confidence must be carefully nurtured between participants. Having taught piano lessons for several years, experience has helped me to develop awareness of how I operate in this role and my relationships with pupils, and with their parents are foundational to the research process.

##### **4.4.1 Conflict of dual roles**

The qualitative researcher is in a paradoxical situation needing 'to be acutely tuned-in to the experiences and meaning systems of others' and yet to be aware of how 'biases and preconceptions may be influencing what one is trying to understand' (Maykut & Morehouse, 1994, p. 123). These biases might be overcome by making accounts of the research open to participants and dissemination through research presentations at conferences, to BDA, and through the use of a focus group consisting of experts in the field of dyslexia at the final stages of the research. By using the phrase 'working the dialectic' Cochran-Smith and Lytle (2009) refer to the 'reciprocal, recursive, and symbiotic relationships of research and practice' with the boundaries between teacher and researcher obscured; they describe this method of producing knowledge as 'improvising dance moves', rather than 'climbing stairs' (p. 43). McNiff (2016) concurs, referring to action research as a

'dialogue', not a specific technique; the researcher is responsible for reflecting, making choices and being held accountable for the outcome of those choices (p. 40).

Others consider that trying to balance these dual roles may lead to conflict, particularly in the data analysis process (Brannick & Coughlin, 2007). Dwyer and Buckle (2009) resist a focus on duality by stating that 'the core ingredient is not insider or outsider status but an ability to be open, authentic, honest, deeply interested in the experience of one's research participants, and committed to accurately and adequately representing their experience' (p. 59). In regard to my insider status as teacher, I found that at times I was aware of the recording process during lessons and was possibly less spontaneous than I might be in a normal lesson setting. Sometimes I found there to be an internal conflict when I wanted to try a new strategy or method during the lesson, but could see that the student was overloaded, and it felt as though by accepting this, I was 'limiting' the research that might be done. However, as stated earlier (see Chapter 3, section 3.7), I would always prioritise the quality of the pupil's experience and their comfort within this setting. Flexibility was needed to maintain a good relationship with the student and adapt to their needs.

#### **4.4.2 Navigating power imbalances**

In addition to reciprocal trust, there were the challenges of navigating power imbalances between teacher and student, interviewee and interviewer, adult and child, parent (employer) and teacher (employee). Geiger (2016) indicates that the researcher moves from the initiator of the project to someone who is dependent on the contributions of the participants for the success of the project; this 'transfer of ownership' is important for effective data and interpretation (p. 14). Interview participants held the power through the extent and content of what they shared, but the power to analyse and interpret that information was held by the researcher. In relation to the parents of pupils in my research, different factors came into play. Parental support, even when parents do not have extensive knowledge of music, can affect students' practising and development (Davidson et al., 1995).

#### **4.4.3 Overcoming bias**

Each researcher seeks to account for and overcome their own personal bias in their research process (Herr & Anderson, 2005). In my research, critical friends, academic staff, peer

students, other instrumental teachers and dyslexia experts offered a balance to my role as the insider-researcher. As outsiders, without emotional connection to the teaching context, they were able to be aware of how my personal bias might affect the research. They provided feedback on lessons and written material, offered advice and signposted to specific resources. In addition, developing narratives of the research helped me to look more objectively at situations where I have insider knowledge. This may permit the self-reflective awareness of areas where my preconceived thoughts and ideas hinder me from perceiving situations accurately. I acknowledge, for example, that I view music reading through musically literate lenses, which may make it difficult to understand and empathise with my dyslexic students.

Luft and Ingham (1955) developed a framework of understanding self-awareness in interpersonal relationships: the Johari Window. The aim of the model is to enhance transparency and openness in relationships and consists of four areas: arena, blind spot, hidden and unknown. By increasing the open areas (i.e. the 'arena') in relationships through self-analysis, seeking feedback from others and collaboration with participants, the blind, hidden and unknown areas of the relationship might be reduced. In my piano teaching practice, there is a certain amount of information which is known and shared equally with the student; this represents the 'arena'. However, a student's perspectives of repertoire and lessons, of their capabilities and of me as their teacher may, for various reasons, be hidden to me. Building a foundation of trust and acceptance may create an environment where the student will feel liberty to reflect on and offer explanations for barriers that might occur in the learning process.

For many dyslexic students, previous educational experiences have been negative and any new learning environment may cause a certain amount of anxiety and stress; this might cause students to try to disguise their difficulties (Riddick, 2012). I sought to mitigate this in my teaching practice by collaborating with the individual students and offering as much of the decision-making to the students as possible: choice of repertoire, order of lesson activities and choice of teaching methods. Sharing the power and ownership of the direction of the lessons was intended to address any teacher-student power imbalances. I was committed to a mentor-friend relationship (Lehman et al., 2007) with the student for the purpose of promoting learner autonomy, reflection and independent thinking. I sought to

view them as 'co-researchers' and not as 'subjects' by honouring their voices in the lessons (Reynolds, 2014, p. 349). Additionally, I tried to demonstrate sensitivity and empathy in our relationship so that if they were overloaded, they knew they could ask for a break, for further explanation or a change of activity without any negative reaction or defensiveness on my part.

#### **4.4.4 Identifying preconceptions and beliefs**

Flexibility allows a researcher to acknowledge that new questions may need to be asked and to allow the cycles of action and reflection to adapt when the need arises. Teaching and research rely on many variables, and degrees of flexibility are needed to navigate these variables appropriately. By regular reflection and by maintaining openness to change, these challenges may be negotiated (Kemmis & McTaggart, 2005). Atkinson (1994) points out that in real-life action research, the cycles are not always 'neat spirals', that teachers are prone to making decisions intuitively instead of in a planned way and that documenting research requires sustained effort (p. 399). I developed a list of guidelines in order to mitigate any preconceptions or bias which I might have; this 'bracketing' process (Tufford & Newman, 2012, p. 83) led to the following principles.

1. It is important that I do not make assumptions about each person's experience as a dyslexic individual based on previous participants' experiences or what I have read in academic or pedagogical literature.
2. Remaining impartial when analysing my own piano teaching might be difficult, but it is important to be aware of my own potential emotional attachment and egoistic attitudes in discerning how the data should be reflected upon and interpreted.
3. I must remember that as I am non-dyslexic, I must be sensitive not to take certain abilities (for example: reading, calculating numbers, sight-reading music, ease in writing) for granted in dyslexic participants and that I should seek as much information as possible from them or their parents in advance in order to plan lessons, aiming to avoid any humiliation or sense of embarrassment.

4. It is imperative that I maintain my roles as a teacher and researcher and understand that these roles do not qualify me as an assessor of dyslexia or other learning differences.
5. I will make use of outside relationships such as those with my university supervisor and piano teaching colleagues along with reflective journals in order to limit bias and enhance the research process.

In this process, the researcher identifies preconceptions and beliefs about the research participants and then 'suspends or brackets them' prior to the research study so that they understand more objectively how they might affect their interpretation of the results (Cresswell & Miller, 2000, p. 127). Bracketing is meant to be a process of 'self-discovery' for the researcher throughout the research process and there is no uniform definition of how it should be achieved; this flexibility is beneficial for allowing the researcher to implement bracketing with flexibility in accordance with their own research needs (Tufford & Newman, 2012, p. 93). I used the points above as a starting point but frequently returned to them to remind myself throughout my research in order to attempt to separate my preconceptions or bias from my research process. During participant interviews, particularly those with dyslexic participants, it was clear that each individual has experienced dyslexia in their own way and this confirmed the points made above in brackets (1, 3, 4). My reflective process and research reading continued to support my awareness of bracket 3. I reviewed these often during my teaching and data collection. Reviewing the lesson videos helped me to observe and reflect as an outsider, rather than as the teacher thinking and acting in the moment. As detailed above, I also sought feedback from others in my teaching and research in order to attempt to eliminate possible blind spots.

#### *4.5 Ethical considerations of insider-research*

In terms of the ethical considerations of making sure that there is no harm to participants, being an insider allowed me to develop sensitivity to each participant in order to avoid embarrassment or shame throughout the research process (Berger, 2015). Insider knowledge of individual personalities in my teaching practice enabled an advantage in this sense as each situation and student are unique. Conversely, I was also aware that this familiarity might cause me to develop assumptions about the students or create the feeling



that they could not disagree with or express negative opinions or beliefs about me, lesson structure or activities. Students might feel pressured to agree to participate in the research, perhaps even to please me. I sought to explain to each student the purpose of the research and to reiterate that there was no expectation or obligation to participate; additionally, as noted above, my own guidelines were frequent points of reference to remind me of my aims and priorities.

As detailed in Chapter 3, educational research guidance such as the British Educational Research Association (BERA, 2018) and the University of York ethics guidelines were followed as a means of protecting the participants and making sure that they knew their rights, before and during the research, and afterwards in terms of how I presented and stored data relating to them, and how I ensured their anonymity. Informed written consent was a significant part of the ethics process, as participants were assured anonymity, voluntary participation and were aware of how the research findings would be shared. I reassured students and parents that our relationship would not suffer or be changed if they decided not to participate. In conclusion, the role of insider-researcher requires consideration of a number of factors, both positive and negative. In order to mitigate the challenges, I sought to nurture openness with participants, to share the power in lessons through collaboration and a mentor-friend teaching style, to maintain flexibility, solicit feedback and consider prior assumptions or preconceived bias. I deployed these approaches on an ongoing basis, continuing to review them as the research progressed.

## Chapter 5 FINDINGS FROM INITIAL SURVEY

### *5.1 Overview*

Although some literature examines challenges and strategies for music dyslexic students (see Chapter 2), there is a lack of research relating to students' experiences with music exams. A questionnaire was conducted in order to understand the views and experiences of graded music performance and theory exams for dyslexic students. The online questionnaire was distributed from April 2019 and was open until December 2019 to cover the time spanning at least two exam periods. The information sheet and consent form are located in Appendix A, whilst the questions are included in Appendix E of this thesis. The participants were recruited through contact with organisations which have dyslexia and music overlap; for example, the British Dyslexia Association music committee mailing list, music teacher organisations and social media for music teachers interested in teaching dyslexic students.

At the beginning of the questionnaire, participants were asked to consent to the following:

1. They have read and understood the following content and that as the guardian to a minor child they may assist them in completing this questionnaire;
2. They understood that the purpose of this questionnaire is to better understand dyslexic students' perceptions of music exam access arrangements and reasonable adjustments;
3. They understood that their responses were anonymous and would only be used for the purposes of this research and
4. They voluntarily consented to participate in this research study which they understood involved completing this questionnaire.

The questionnaire was designed so that it would not progress to the questions unless the participant gave consent to these statements.

## *5.2 Contextual information*

The questionnaire consisted of open and closed questions and asked students/parents/guardians about the following:

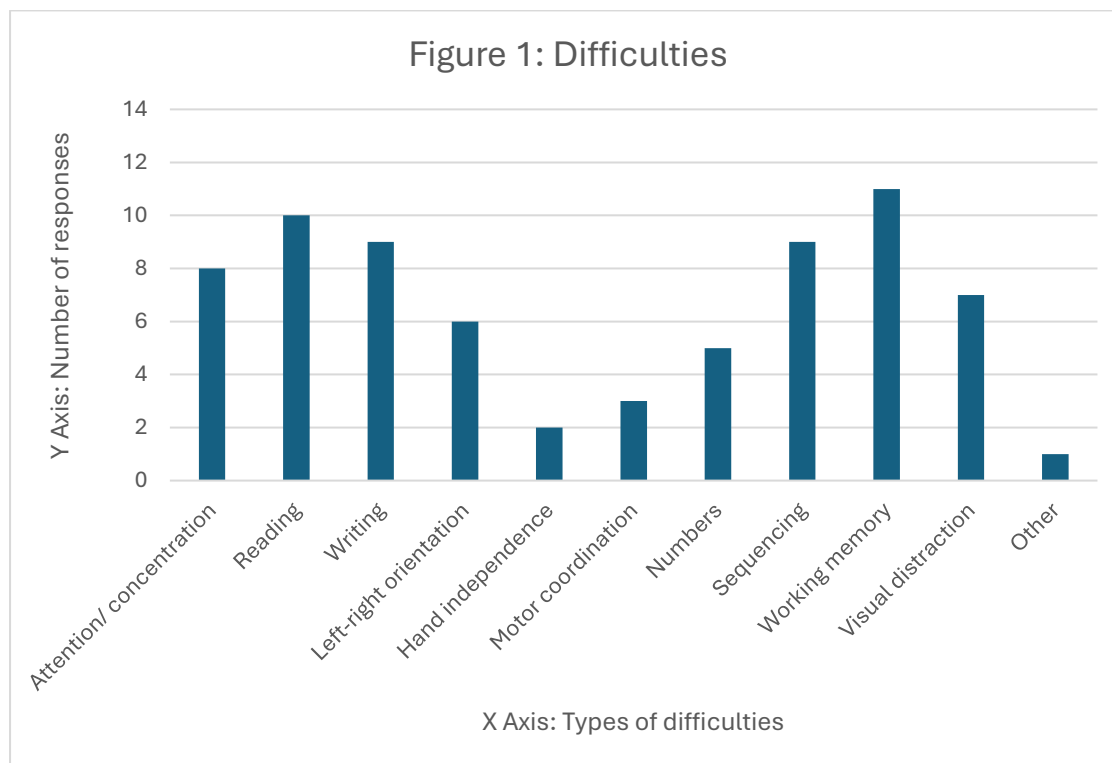
- age
- diagnosis of dyslexia
- instruments played
- difficulties
- how they obtained information about the exams
- required documentation
- their views on the accessibility of exam board websites
- choices related to opting to take exams and selecting an exam board
- reasonable adjustments or accommodations used
- the perceived equity in the use of accommodations and recommendations for improvement

The questions were designed to be as accessible as possible for dyslexic students. Fourteen participants completed the questionnaire. The range of ages indicates that there was one participant five and under, one participant six to ten years old, five participants age eleven to eighteen and seven participants age nineteen or above. Of these participants, thirteen had been assessed with dyslexia or a specific learning difficulty. As mentioned in the consent form statements, it was made clear that parents might complete the questionnaire for their children.

Participants reported playing a wide range of instruments, usually more than one. Thirteen participants listed the piano as their primary instrument, whilst other instruments played included woodwind, string and brass instruments. Three students had vocal training. The range of experiences varied widely as some reported learning their instruments for two years whilst other participants had studied their instruments over decades. In describing their motivation to take music exams, building on existing skills and boosting confidence were the primary reasons given, with some evidence that stimulating a commitment to practise, demonstrating a level of competence to others and exploring repertoire were also motivating factors.

### 5.3 Student challenges

In describing their difficulties, participants were asked to identify which, if any, of the following options presented in Figure 5.1 applied to them.



**Figure 5.1 Difficulties reported by dyslexic students**

Poor working memory (11) and difficulties with reading (10) were the most common, but difficulties with attention (8), difficulties with writing (9) and sequencing (9) were also noted. Seven participants reported ‘visual distraction’, and five students reported difficulties with numbers. Six students reported difficulty with determining left from right. Participants also noted poor motor coordination (3) and poor hand independence (2). One participant responded with another characteristic, stating that they had ‘difficulties understanding verbal instructions, especially when under pressure’.

### 5.4 Obtaining information about the exams

Participants reported that their primary means of obtaining information about access arrangements was through the exam board’s website, with others reporting that their instrumental teacher, a parent or contact with the British Dyslexia Association provided

assistance in understanding the guidelines. Three participants were not aware there were special arrangements for dyslexic students.

#### **5.4.1 Accessibility of exam board's website**

Five students felt their exam board's website was friendly for dyslexic readers, whilst three participants disagreed. Four participants replied 'I don't know' to the question on the ease of use of the exam board's website, which suggests that they may not feel confident in recognising what constitutes a dyslexia-friendly website.

Factors affecting the readability of the website were reported to include the font type and lack of customisable options, as well as font size, colour combinations or choices, spacing of text or images and content. The design and absence of a site map were not indicative of factors affecting their ability to access the website. They were also divided regarding whether or not they felt access arrangements were made clear to them by the website.

#### **5.4.2 Documentation required**

Seven participants had been asked by exam boards to provide supporting evidence to document their dyslexia, whilst three respondents indicated that documentation was not required. Six participants had provided evidence from an official assessment and one participant provided a letter from their school's SEN coordination officer. The evidence had to be provided at least four weeks before the exam with three participants reporting that they had to provide the evidence more than one month in advance.

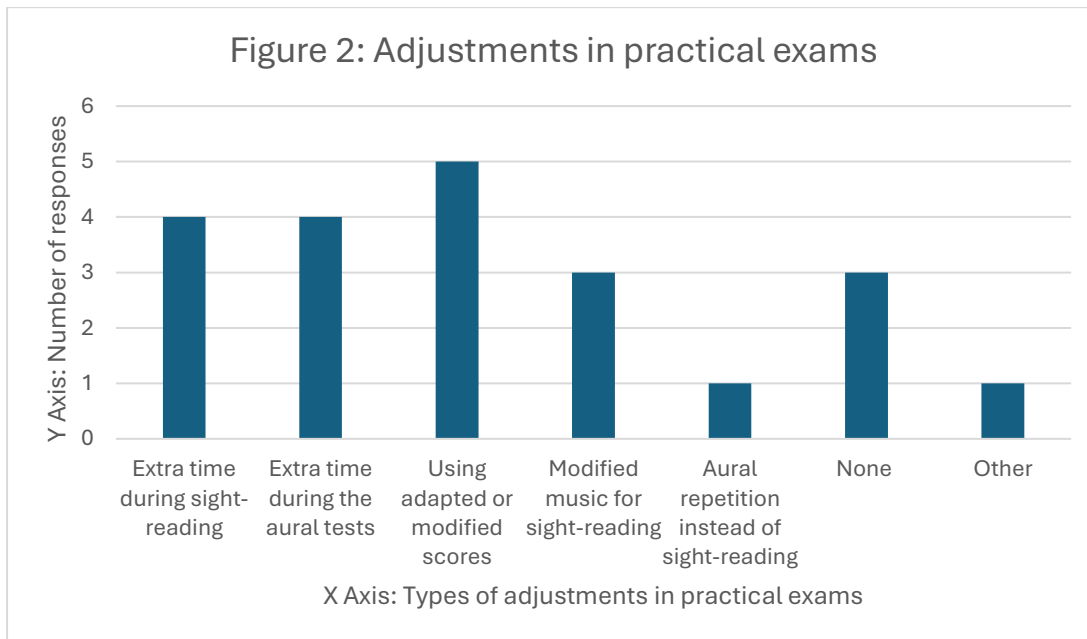
### ***5.5 Choosing to take exams***

Eight participants reported taking both music theory and practical exams, with two participants taking only the practical exams. One participant had not taken any exams. Unsurprisingly, younger participants reported taking practical graded exams only. The majority of exams had been taken with ABRSM (Associated Board of the Royal Schools of Music), Trinity, Rockschoo and LCM (London College of Music) less well represented. Eight participants reported choosing not to take music exams at some stage in their music-learning journey; of these, four chose not to take music theory exams and four chose not to take practical exams. In describing the challenges with music theory, one participant 'struggled to represent the information I had learnt' while those who chose not to take a

practical exam did so because of sight-reading and memory issues. One student reported that they took a Grade Three practical exam in piano, but it ‘took far too much time so [I] didn’t do the next level’.

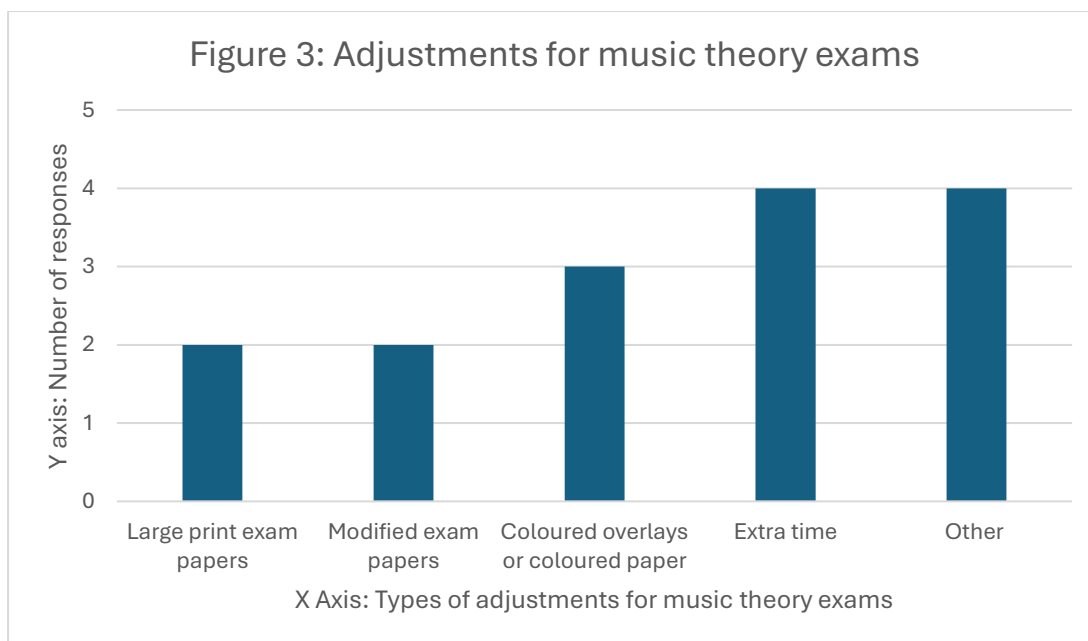
### 5.5.1 Adjustments/accommodations taken during exams

The following figure describes the adjustments used during practical exams.



**Figure 5.2 Adjustments in practical exams**

The participant who responded with ‘Other’ described ‘using colour overlays and tinted glasses for sight reading’ as their adjustment. Music theory exams required different accommodations, with Figure 7 detailing those used by participants:



**Figure 5.3 Adjustments for music theory exams**

Of those who chose 'Other', three reported that they chose not to take any adjustments and one reported using plain paper instead of manuscript paper, stating that it 'allowed me to work without the manuscript lines moving around and distracting' during the exam. However, this is not listed as a music exam adjustment but is something which each person taking the music theory exam might elect to do.

### 5.5.2 A question of equity

Participants were asked if they felt that these access arrangements were effective in giving them a fair opportunity in the exam; only three affirmed this for the music theory exam whilst four felt that the arrangements contributed to equity in the practical exam. Three participants noted that the extra time during sight-reading was helpful in terms of processing the information, and one participant noted that it was useful to have 'repetition of scales without penalty'. This is not listed as an adjustment but was reported by the participant as an open-ended response indicating that arrangements might be flexible depending on the exam board and the needs of the student.

### 5.5.3 Recommendations for improvement

When asked for recommendations to make music exams more accessible for dyslexic students, one participant responded that they would like more 'consideration around how

dyslexic students take aural tests in practical exams’ whilst another suggested extra support with music theory would be helpful. Describing an uncomfortable experience with an examiner who stood behind them during the extra time, one participant suggested that ‘examiners should be given more training in [their] manner’ during exams.

## *5.6 Limitations, conclusion and recommendations for the future*

This questionnaire was completed before the widespread use of online music theory exams during the Covid-19 pandemic; however, data related to how those exams are perceived by dyslexic students were collected during interviews with instrumental teachers and dyslexic music students (Chapters 6-8, Chapter 10).

### **5.6.1 Limitations**

Whilst this study is limited to a small sample from the population of dyslexic music students (14 participants), the responses do enable an understanding of their experiences and give insight into ways in which the process might be improved in terms of accessibility and equity. The small number of respondents may also suggest that few take music exams.

### **5.6.2 Summary of key findings**

The following are the key findings from the questionnaires:

- Challenges for dyslexic students include reading and writing text, working with numbers as well as a range of executive functions, such as working memory, attention and sequencing. There were indications of spatial awareness and coordination issues.
- Visual distractions were also mentioned by half of the participants.
- Dyslexic students are motivated to take graded exams, but they experience a number of barriers.
- The exam board website is often the first point of contact for students when searching for information about access arrangements and reasonable adjustments, but participants found that the accessibility of the website made it difficult to obtain the relevant information.



- Teachers need additional time and resources, such as training, in order to prepare students to utilise the reasonable adjustments effectively and to their advantage.
- The specific requirements of the exam might be a bottleneck to dyslexic students' progression.
- Examiners may need training to better understand how to support students with specific learning differences during exams.

In conclusion, findings suggest a number of recommendations to improve the accessibility and quality of the exam experience for dyslexic students. Exam board websites, as the gateway to information about reasonable adjustments and access arrangements, might need clearer signposting and would benefit from incorporating changes based on suggestions from users with special educational needs. Although some dyslexic students do take exams for a variety of reasons, there are also a number of barriers to their participation which the exam boards would do well to consider.

## **Chapter 6 FINDINGS FROM TEACHER INTERVIEWS: BARRIERS AND CHALLENGES**

### *6.1 Introduction*

The literature review (Chapter 2) of this thesis emphasises the complexities of dyslexia and reveals potential challenges experienced by music educators and their dyslexic students (Livingston et al., 2018; Oglethorpe, 2008; Rolka & Silverman, 2015). Some handbooks (Oglethorpe, 2008), narratives and case studies (Miles et al., 2008; Nelson & Hourigan, 2016) have established a foundation for understanding dyslexia and music learning. However, research is needed that further explores the teacher's perspective on how they gain expertise, identify dyslexic students, utilise strategies, develop individual student profiles, collaborate with the student and parents, select method books, employ technology and use music exams. This chapter and the following two chapters set out the findings from teacher interviews. Chapter 6 provides contextual information on the participants and then identifies barriers and challenges reported by teachers. In Chapter 7, teacher's perspectives of the areas of challenge for dyslexic students and corresponding teaching strategies are explored and Chapter 8 provides an analysis of teacher's views on the strengths of dyslexic students.

### *6.2 Contextual information*

Participants who had experience teaching dyslexic students were sought to participate in this research. Twenty-seven instrumental or vocal teachers participated in semi-structured interviews. Further details regarding the processes of recruitment, data collection and analysis are found in Chapter 3.

#### **6.2.1 Participants**

The participants were instrumental and vocal teachers, and all had experience with instrumental teaching for dyslexic students. The interviews were conducted either face-to-face (before March 2020) or on Zoom and were recorded for the purpose of making a transcription. To ensure that the transcript represented an accurate written statement of the participants' experiences, participants were offered the opportunity to read and revise their transcripts. Some of the participants also taught in other educational contexts; these

are listed in Table 6.1 below. Twelve participants self-reported a neurodivergence during the interview, which they felt brought both advantages and challenges to their roles as teachers. Although this information was not solicited from participants, this may suggest that others among the remaining participant teachers may also be neurodivergent.

Of the 27 participants, two held dyslexia assessor or AMBDA (Associated member of the British Dyslexia Association) status, one held a postgraduate dyslexia specialist certification and two were working towards British Dyslexia Association (BDA) Level 5 certification, which is an accreditation in literacy, support and intervention with dyslexic students. Level 5 (BDA) enables those who complete it to achieve dyslexia specialist teacher and practitioner status, although this level does not allow individuals to carry out diagnostic assessments (BDA, 2020). Some of the participants were involved in their own research related to music and dyslexia.

Twenty of the participants were in the United Kingdom, four in the United States, two teachers were based in European countries, and one in Australia. Table 6.1, below, presents contextual details of the participants including the instruments taught (Column 1), educational contexts<sup>22</sup> (Column 2), dyslexia-specific training or research background (Column 3), location (Column 4), and self-reported neurodivergence (SR-N) (Column 5).

No.	Instrument	Context	Training	Location	SR-N
1	Piano	IT, HE	Level 5 BDA	UK	
2	Piano	IT, SS, HE		UK	
3	Piano	IT		UK	
4	Piano	IT, PS	Level 7 BDA	UK	
5	Piano	IT, PS	Working to Level 5 BDA	UK	Dyslexia
6	Flute	IT, HE		UK	
7	Piano	IT, HE		UK	
8	Cello	IT, HE, PS	PG Cert.	USA	
9	Piano/ Organ	IT, SS		UK	
10	Piano	IT		UK	

<sup>22</sup> Instrumental Teaching (IT), Higher Education (HE), Secondary school (SS) and Primary school (PS)

11	Voice	IT, HE		UK	
12	Brass	IT, PS	Working to Level 5 BDA	UK	Dyslexia
13	Piano, Guitar, Voice	IT, PS, SC		Australia	Dyslexia
14	Piano	IT		UK	
15	Voice	IT, HE, PS	Postgrad. research	Sweden	Dyslexia
16	Piano, Voice	IT, PS		UK	Dyslexia
17	Piano	IT		UK	Autism
18	Piano	IT		UK	Dyspraxia/ Autistic
19	Piano, Voice, Clarinet	IT		Switzerland	Dyslexia, Dyscalculia
20	Piano, Voice	IT, SS, HE		USA	
21	Piano	IT		USA	Dyslexia
22	Piano	IT, HE	Postgrad. research	USA	Dyslexia
23	Woodwind	IT, SS		UK	
24	Guitar, Percussion	IT, PS, SS		UK	Dyslexia
25	Piano	IT, PS	Research	UK	
26	Piano	IT, HE		UK	Dyspraxia/ Autism
27	Woodwind	IT		UK	

**Table 6.1 Contextual information about participants**

### **6.2.2 Summary of the semi-structured interview questions**

The interviews were semi-structured, and the interview schedule is included in Appendix F. Participants were asked to describe their experiences with dyslexic students including how they identified dyslexic students, challenges that were faced, strategies they applied and their use of technology or specific method books. They were asked to relate their observations related to strengths in dyslexic students and to share their views on parental involvement. Participants were asked about any resources which had informed them regarding their teaching of dyslexic students. Finally, participants were offered an opportunity to share any other information which they felt might be relevant. Chapter 6 focuses specifically on the barriers and challenges, whilst Chapters 7 and 8 address teachers' perspectives of student challenges, strategies and strengths.

### *6.3 Teacher perceptions of barriers in teaching dyslexic students*

From these interviews, the following themes emerged under the larger subtext of challenges and barriers faced by teachers in their experiences teaching dyslexic students. In this chapter, findings relating to barriers include a lack of training (6.3.1.1), research (6.3.1.2), knowledge and resources (6.3.1.3) and poor communication with schools and parents (6.3.2). In the next section (6.4), a number of challenges were identified by teachers in terms of their identification of dyslexic students (6.4.1), recognition of when the student was learning (6.4.2) and when they were experiencing stress (8.4.3) as well as encouraging the student's metacognitive processes (6.4.5).

#### **6.3.1 Barriers: Gaining expertise**

An understanding of dyslexia has been steadily gaining traction since the 1960s, as described in the literature review of this thesis (see Chapter 2). Despite this, teachers reported difficulties in gaining expertise due to their perceived lack of research, training, knowledge and resources for dyslexia and instrumental music teaching. Inadequate communication with parents and schools relating to disclosure and support was also identified as a barrier. Some teachers felt that these factors led to misunderstandings, assumptions and poor strategy selection which then contributed to detrimental outcomes for dyslexic students.

##### **6.3.1.1 Lack of research**

Consistent with the literature review (Chapter 2) which highlighted the paucity of relevant literature, participants (P4, P10, P17, P20, P21, P22, P25, P25) struggled to find research on music and dyslexia. Welcoming the opportunity to participate in this research, a teacher stated: 'I'm glad to hear about the research as it's nice to have someone who has faced the same issue' (P21), which suggests that isolation may create difficulties in gaining knowledge of issues and good practice. One limiting factor is that the majority of information seems to be passed on informally, focusing on general experiences: 'There just weren't good examples for music; it was mostly anecdotal stuff that people have from their own lessons' (P22). Reiterating the importance of practical solutions, a piano teacher stated: 'It's okay to say these children have these problems, but what are we doing to help them navigate through it?' (P5). Additionally, online sources on the topic were not seen as up-to-date,

relevant or sufficiently pragmatic. These findings also emphasise research gaps, and potentially, the accessibility of the findings of research for instrumental teachers. They also indicate that due to the isolation instrumental teachers may face, they may explore or seek informal ways of learning from other teachers and opportunities to embed this knowledge into their teaching practices.

### **6.3.1.2 Lack of training**

Nine teachers (P1, P4, P9, P10, P14, P17, P21, P20, P25) reported that they believed there was a lack of regulated pedagogical training or continuing professional development (CPD) to prepare instrumental and vocal teachers for dealing with complex issues like dyslexia. A teacher noted:

If there was one thing that I would summarise so far from what I've seen, I would like to create more awareness in curriculum music, in schools and in private teaching. I'm conservatoire trained and there was nothing about dyslexia. It was about how we performed or taught. (P25)

The impact of this absence of information could mean that the dyslexic student may be misunderstood or struggle within the context of the instrumental or vocal lesson. Although one might expect that there would be better support and training structures in place within a school setting, even instrumental teachers who worked in school settings recognised the need for better understanding. Assumptions made by other teachers who did not recognise the concept of dyslexia as a spectrum disorder might mean uneven levels in areas of difficulties are potentially misinterpreted and misunderstood by teachers; this might have a negative impact on the teacher's relationship with the student.

There were a variety of challenges for teachers in identifying the correct strategies to use based on their knowledge of dyslexia and its effects on music learning as well as the individual student. As dyslexia research is seen as complex, and at times, contradictory (see Chapter 2), it is not difficult to imagine that teachers might not find current information which is relevant to their teaching practice. This suggests that it might be beneficial for teachers to have access to high-quality, recent research and information which might be

embedded into their teaching practices through ongoing continual professional development courses (CPD) or programmes of teacher support offered through music hubs.

### **6.3.1.3 Assumptions**

Findings suggest that a lack of training and information sometimes leads to assumptions and misconceptions. For example, P25 noted that ‘sometimes the music teachers think “it only affects reading and not music”’ (P25). Teachers referenced the challenges of avoiding assumptions in the process of getting to know the student: ‘The more different a student is from our own way of working, the harder we have to work to understand them’ (P2). Supporting students when dyslexia ‘varied from student to student’ was described as ‘the most challenging aspect’ (P7).

Even assuming that a particular strategy will be useful might lead to adverse consequences unless the teacher has a grounded understanding of dyslexia, co-occurring conditions and the individual pupil. A teacher gave the example of two different dyslexic students in their approach:

If I give them a piece of music that is quite complicated but is chock full of patterns, they will get it like “that”. If I give it to another dyslexic student with sequencing issues, they will think it’s horrible. (P25)

This suggests that teachers need sensitivity when considering how specific challenges from dyslexia might affect a student’s preferences for curriculum, strategies and repertoire.

### **6.3.1.4 Misconceptions**

Three teachers (P5, P7, P25) expressed the fact that there were times when they were unaware which strategies might be effective, or how to utilise them appropriately with dyslexic students. As an example, the use of colour is a recommended dyslexia strategy (Hubicki & Miles, 1991; Oglethorpe, 2008); however, a teacher expressed caution because ‘If someone has synaesthesia then the colours [that a teacher chooses] may not work, then the child should come up with their own colour or choose their prompts’ (P5).

There were also misconceptions about dyslexia which were utilised overconfidently as a ‘cure’ in educational settings. One example of this is the use of specific-coloured overlays or coloured paper which has been discussed in previous chapters of this thesis.

I've seen teachers identify dyslexic students and ask for a yellow overlay or background for them. You would ask them 'Is it really helping them?' and they would say 'I don't know, I was just told to give them a yellow background'. (P25)

A teacher who had done considerable research on the use of coloured paper or overlays reported that they were really 'bucking the trend' and caused an uproar when they gave a presentation to music educators, referring to the 'myth about dyslexia, [that] it's not visual, that using coloured lenses or coloured overlays is not an appropriate accommodation' (P8). This suggests that teachers may be aware of the variance of information available even in more supported, regulated contexts such as school settings; challenges could be even greater for instrumental teachers working in isolation.

Further misconceptions were shown by a vocal teacher who reported that their student's learning support tutor offered suggestions which were not applicable in the music lesson context, giving the student a table of 'learning techniques to say the words, speak the rhythm, say the word with the rhythm [and then] putting it together' (P11). However, the student did not find this helpful and the teacher felt that this negatively impacted their confidence, as well as reminded them of past educational experiences. Teachers' frustrations at these limitations may mean that they must explore information outside of their formal training and both informal and formal contexts may not always offer well-researched practical solutions.

This reinforces the need for current research to be made available to teachers as well as an understanding of dyslexia, specific music learning techniques and an awareness of when it is appropriate to use them. This also highlights the importance of personalising the learning process and collaborating with the student to find their best ways of learning. Despite the learning support tutor being a professional trained to assist the student (who was an adult), this emphasises that teachers should encourage students to be open and honest about what approach works best for them.

#### **6.3.1.5 Lack of knowledge and resources**

Findings highlight the barriers that teachers perceive in terms of a lack of knowledge and experience regarding how to teach dyslexic students. Teachers attributed challenges in



supporting dyslexic students to several factors including a lack of expertise and resources. Findings suggest that some participants did not feel that they had achieved much in teaching dyslexic students and correlated this with the student's difficulties as well as gaps in their own experience as teachers. Some teachers suggested feeling out of their depth in teaching dyslexic students, for example, P7 who stated: 'To be absolutely honest, I'm not sure that I did anything very successfully'. Another teacher stated: 'It is difficult to know what to do because we are still on a Grade One level because they can't handle anything more challenging; that is frustrating for me as a teacher' (P17). This is consistent with Oglethorpe (2008) who found that despite putting forth her best effort, some students did not appear to make much progress.

A dyslexic piano teacher wondered if teachers were put off by the challenges of working with dyslexic students and 'just want students who read normally and don't struggle' (P21). Teachers experienced a tension in wondering whether to attribute the lack of progress to the students' lack of practising or to a lack of preparation in knowing how to practise. Perhaps teachers may have felt unsupported in understanding these challenges and therefore reluctant to take on dyslexic pupils or they may have been unsuccessful teaching a student only to later realise they might be dyslexic. Teachers sought help from SEN specialists in school settings, organisations like the Independent Society for Musicians (ISM), professional development courses, the British Dyslexia Association (BDA) website, European Piano Teachers' Association (EPTA) and informal discussions with other teachers. A small number of participants mentioned books as resources, Oglethorpe (2008) and Miles et al. (2008), which have been mentioned previously along with a piano pedagogy book (Polischuk, 2018) and a general book on teaching students with dyslexia and dysgraphia (Berninger & Wolf, 2009).

#### ***6.3.1.6 Limited expertise in teaching dyslexic students***

Some teachers recognised that they lacked proficiency in choosing and devising appropriate strategies for dyslexic students, for example P2 who stated that 'I haven't had enough experience teaching dyslexic students to be able to follow through and see how things can go' (P2). As a result of this, a number of teachers (P1, P4, P5, P8, P12, P25) sought dyslexia literacy training when they observed that certain students were not responding to traditional music teaching methods and demonstrated specific patterns of difficulties:

My journey into this was due to some pupils who were struggling and... Someone said they might be dyslexic so I thought 'Oh, I will do some research' but couldn't find much and then I went to do my Masters in supporting learners with dyslexia, a two-year course. It was about literacy and numeracy, not about music, but it was within the course that I decided to do a project on music and dyslexia. So, some of the ideas I got from literacy and numeracy have fed into what I do. (P4)

Teachers with relevant training understood that teaching was more likely to be successful when incorporating multisensory, repetition, systematic and structured learning in a personalised way. It can be burdensome for teachers to accurately estimate the amount of preparation time to prepare these strategies: one stated that the greatest challenge 'relates to the extra time it takes to devise appropriate individual strategies as all pupils are different' (P9). This underscores the need for dedicated music and dyslexia training for teachers, as dyslexia literacy applications may have limitations.

#### **6.3.1.7 Lack of well-designed method books and awareness of appropriate repertoire**

Teacher findings indicate that no single method book is useful for all dyslexic students. Teachers reported using a variety of method books to tailor repertoire to the student's needs. Numerous issues were found to be barriers, including the use of stave lines and stems for beginners, the length of pieces, small print music, disproportionate printing of music (for example, with some bars longer than others), lack of patterns, not encouraging use of the full keyboard, lack of emphasis on connecting keyboard to stave, a focus on finger numbers for note finding and pieces with counterpoint. Books and methods which focused on using colour or shape as indicators were considered to be dyslexic-friendly with some pupils (discussed further in Chapter Eight), but the eventual transfer to a conventional format of score was seen as a challenging factor.

Identifying a lack of emphasis on coordination in method books, one teacher felt that:

There aren't any method books specifically for dyslexics. I think they all assume that the coordination will develop on its own and with dyslexia, you have to make that your first priority. If you don't, it won't develop. (P21)

Finding appropriate repertoire was emphasised as teachers felt it was important for dyslexic pupils in particular to experience success when learning a piece as a means of keeping up their motivation. With some of the hurdles relating to sight-reading, repertoire choice may be limited and teachers may have to make sensitive decisions:

They want to play Einaudi or a film theme or a video game theme and get loads of 'street cred', or maybe tackle the reading and we know that's a challenge and so we have to have a different set of expectations for the music we can play. But it's still valuable and we need to do them both concurrently (P4).

Therefore, teachers may need to be resourceful and creative in their approaches in negotiating a balance between the student's choices, their capabilities, the difficulty level and the accessibility of the music. This also highlights the usefulness of and need for potential repertoire lists which may cater to dyslexic students' strengths but would also interest and challenge them.

#### ***6.3.1.8 Limited knowledge on the availability and utilisation of technology***

Findings suggest variance amongst teachers' perceptions of the value of technology in lessons. A teacher considered that while technology might provide some motivation as a novelty, it was 'just not something I use very much in my teaching anyway' and reflected whether 'it would have really achieved any worthwhile teaching goals' (P7). According to one piano teacher, training apps were not helpful because they lacked a multisensory element (P5). Another teacher also indicated there were limitations and benefits with technology:

Technology can be a distraction, it can also be a tool. But if you are trying to teach a kid, where's 'A'? You don't need bells and whistles, it's simple and structured. (P8)

Due to the rapid pace of change, one teacher stated: 'There is so much technology that comes out now that I can't keep my finger on the pulse of it' (P12). One participant reflected that they 'never used it with dyslexic students, because I was completely unaware of what was helpful' and did not have access to 'lists of recommended apps' (P10). This indicates a lack of informed knowledge on which apps are available and relevant for dyslexic learners and a concern about the students' engagement with them.

### ***6.3.1.9 Limited guidance for graded music performance and theory exams***

Teachers reported a variety of perspectives on the use of music exams, practical and theory, with their dyslexic students. Some felt that dyslexic students were not interested in taking exams because they could not cope with the amount of repertoire that needed to be learned (P17, P25), they did not want the stigma of using accommodations (P5) or had difficulty with sight-reading elements (P1, P10, P13). Some teachers were not aware of the reasonable adjustments or accommodations which might be used in exams, nor of the preparation and practice students needed to utilise them in an effective way during exams; they also felt that there needed to be more flexibility in the use of reasonable adjustments, with further research on their effectiveness needed (P6, P12, P17). In two cases, teachers noted experiences where the examiner demonstrated a lack of tact and sensitivity when it came to allowing reasonable adjustments in the exam setting (P6, P12). Examples of accommodations used were extra time for sight-reading, aural and transposition sections, as well as note-taking, enlarged music and the use of tinted paper. Another example of this was the replacement of Grade Five music theory exams with the alternative Practical Musicianship exam in the Associated Board of Royal Schools of Music (ABRSM) syllabus as discussed by P7 in relation to a student who struggled with handwriting.

Others reported the challenges involved in searching out information and selecting exam boards which were more tailored to the specific instrument, the students' needs and their capabilities, citing a lack of clear signposting and accessibility of information (P1, P7, P25, P26). This raises the question whether it was the parent, teacher or the exam board who should be responsible for educating about specific learning difficulties and available accommodations (P1). Parental expectations regarding exams were a tension which teachers had to navigate, with one teacher explaining that they dealt with this by explaining to parents that the goal of playing should be measured by enjoyment, rather than preparing for exam deadlines (P25).

### **6.3.2 Barriers: Communication with school and parents**

Several sub themes arose in relation to the issue of disclosure and an understanding of the student. Teachers reported that poor communication with parents and schools might prevent them from effectively supporting the student. For a variety of reasons, students and

their parents might be reluctant to disclose information related to their difficulties or access arrangements at school.

### **6.3.2.1 Communication with schools**

One teacher referred to a supportive collaboration with schools where they worked: 'I was very fortunate to have that information to hand and that was shared with all the instrumental teachers and all of the staff on some kind of document' (P7); however another teacher was not 'comfortable searching out information about students unless it was definitely necessary' (P2). Several teachers were left to discover the student's challenges by themselves (P1, P6, P15, P16, P23, P25). Similar to the literature (Chapter 1) which suggests that schools need to be incentivised to support students with special educational needs, one teacher believed that the reluctance of primary schools to have a child assessed, or even to acknowledge difficulties, was related to funding issues:

I spoke to her mum and she said 'No, I spoke to the school and the school says nothing is wrong' and I've had this happen so many times ... actually dyslexia is not something 'wrong'. The schools have a vested interest in this because if the student is diagnosed then they will need support, which the school has to fund. (P25)

These findings suggest that teachers may be faced with a variety of scenarios when it comes to communication with schools. If schools do not see the benefits of sharing information about students with the instrumental teacher, this may be a barrier to the teacher's ability to provide the student with effective support; this may, in turn, have negative ramifications for the student. This also suggests a need for examples of good practice in collaboration between parents, schools and instrumental teachers.

### **6.3.2.2 Communication with parents**

Findings suggest the value and the beneficial impact of parental involvement: 'A lesson is just one part of the learning process, in fact it's just the tip of the iceberg as most of the learning is actually going on at home' (P4) and that parents should be 'as well informed as possible about the condition so that they can be the child's advocate' (P9). However, parental knowledge and belief systems about dyslexia, expectations for their child and other factors may create barriers for teachers in developing their understanding of the student and supporting their practice at home.

### **6.3.2.3 Inaccurate knowledge and belief systems about dyslexia**

Several teachers acknowledged that the parent's lack of knowledge about the effects of dyslexia on learning music might hinder them from sharing information as they might not view it as relevant. As a teacher noted:

It took a lot of courage to speak to one mum of a student I suspected was dyslexic. When I explained what I thought, she said 'Oh yes, we know he is dyslexic!', then I said 'You never told me?' (P25)

Teachers felt that parents' belief systems about dyslexia might influence disclosure and the value of a label is subjective (P10). Another participant referred to the fact that there are 'lots of triggering opportunities with the parents if they are dyslexic and they are undiagnosed or ashamed that their child has problems' (P5). Some teachers recognised that 'Dyslexic pupils often have dyslexic parents, and that can be a problem in itself as the students might not be getting the help to remember' (P4); this may mean that lessons or practice sessions might be missed or music is forgotten. Being aware that parents may react defensively or become upset, recall personal negative educational experiences or perhaps believe that their own dyslexia might potentially affect the learning of their child suggests that teachers need sensitivity and tact when communicating with parents. The importance of letting parents lead in any discussion pertaining to students' difficulties was highlighted by a teacher who stated:

I will ask them if they have noticed that their student is having issues at school. If they say the student is doing fine, but I'm seeing a learning issue, then I will not pursue it. If they describe problems with reading, then I will mention that I have noticed the same thing in piano. (P21)

These findings suggest that parents need high-quality information about music learning and dyslexia and that instrumental teachers need sensitivity and care when supporting parents, especially those with dyslexia.

#### **6.3.2.4 Pressure through expectations**

Teachers found that navigating the expectations of parents could be challenging. However, the importance of the quality of the relationship between teacher and parent was highlighted by the following participant:

The parent who is keen for a child to do an exam, you have to talk to them and explain. If they don't pass [the graded exam], it will have a massive effect on their self-esteem and I am not keen to put my name to it. (P10)

This also suggests there can be considerable pressure on teachers to meet parental expectations. Parental expectations can have an impact on the student's engagement and self-confidence, but teachers noted that sensitive communication and quality relationships helped them to navigate these challenges.

Parental expectations may come from a desire to see their child succeed in spite of their challenges, as P18 noted:

Sometimes, if the student is having lots of problems, the parents are glad the child can do anything at all. But, if they don't accept that the child has problems or they think that music is going to be the answer to everything, then their expectations can be incredibly high. (P18)

One teacher recognised the phenomena of intense competition amongst families and spoke about the challenge of 'deflating this in the musical setting' by reiterating that everyone is on their own musical journey and the need to 'really praise the things that student has done, why you are really proud of that and what skills have been involved' (P4). These findings suggest that teachers might need to take the initiative to prepare and present information regarding expectations in a way that sets up both the student and parent for positive outcomes.

#### **6.3.2.5 Lack of supportive collaboration**

It was noted by several participants (P5, P18, P24, P25) that parents might not be involved for a variety of reasons:

[Students need] help with their organisation, help with their practise and someone sitting alongside them. Not in a negative sense, but in an encouraging way: 'I love it when you play that' or 'Could you do that again?' They need encouragement or they get dispirited and distracted, but a lot of parents just don't give it the time. That is such a pity. I ask them through emails or in the notebook, but it often doesn't happen. (P18)

When asked why parents might not be involved in their student's practice, one teacher stated: 'I think it's because it can be a bloody great fight to work with your own children' (P18). There were a number of challenges which teachers faced regarding relationships with parents. Some found parents were overbearing: 'If a mother tells me something her child likes, I will listen politely, but they may be used to speaking for the child' (P10). Other participants found parental interference was not helpful: 'Especially if a parent is musical, I find they often want to get involved too much in the teaching, but usually with no teaching experience' (P27).

These findings indicate the importance of clear guidance from the teacher on what they expect from the parents and how parents might support the student whilst also remaining sensitive to the challenges of parenting, parental expectations, the busyness of modern family life and family dynamics.

#### *6.4 Challenges in the teaching context*

Findings suggest there are challenges in the development of individual profiles of students, for example, in recognising whether the student comprehended a task or information, recognising when they experienced stress and developing the student's metacognition. Some of these challenges included 'working out the individual strengths and weaknesses' (P1). According to P27, the challenges vary due to the age of the student:

With younger students they aren't always sure what they are 'meant' to see, so find it hard to describe what they struggle with, and what they find ok. It's a case of working with them to help them, and then work with what works for their individual needs going forward. In the case of adult learners, they tend to just know that standard notation is too complicated for them. (P27)



### 6.4.1 Identifying dyslexic students

Whilst teachers tended to recognise that it was not their remit to suggest that a child might have dyslexia, some believed that it might be in the student's best interest long-term to signpost them to formal testing, with one teacher stating: 'If you see patterns of difficulties, then you start to think it might end up helping them more in other educational aspects' (P1). Some teachers identified undiagnosed students by comparing their challenges with diagnosed students in their teaching practice:

He [the student with the assessment] would crack something one week and it would be gone by the next. And he did some other unusual things which made me think I had other students with the same problems. I ended up having a further six [dyslexic] students then at school. (P5)

Wanting to avoid speculation, another teacher noted that 'I think there are quite a few who are dyslexic who haven't told me; it is a difficult thing to ask because they might think I see them as [being] "thick"' (P17). Raising awareness of the issue might have wider ramifications for the entire family and for the student's support at school; as one teacher 'suggested [the student] was screened; in the end, they turned out to be dyslexic as did several other family members' (P10).

As mentioned previously, this may be a sensitive topic and the outcome of the discussion might range from parental acceptance to defensiveness, all of which need to be dealt with by the teacher, who may often be unsupported and struggling to find relevant information and useful resources. This highlights the tensions that teachers face between a sense of responsibility to the student and potential guilt for feeling unsure or under-equipped to know how best to handle parental relationships. Having identified that the school, parents or students themselves may or may not notify the teacher of a diagnosis, these findings indicate that there may be clear reasons why the teacher might choose not to seek out specific information about an assessment. This also suggests the importance of the relationship between the teacher and the individual student, including knowing the student and demonstrating sensitivity to their views about themselves and dyslexia.

### 6.4.2 Recognising whether a strategy is working

A teacher's need for observational skills and experience were seen as two important issues when recognising if strategies are working or not. Resisting an overly critical approach was a challenge: 'I start evaluating the teaching process of taking the student from point A to point B; but it is very hard not to put a value on what they do as being right or wrong' (P19). In considering why the student avoids an activity, or is compensating in some way, the relationship between teacher and student is crucial: 'It would take a long time to build up the trust for them to say they don't understand' (P5). Teachers recognised challenges in building up the student's 'self-confidence, because they know they are messing up but they don't quite know how to get out of it' (P18).

Recognising the student's difficulty threshold was not a simple task, according to participants, and the student's ability to deal with risk and frustration had to be managed carefully. Whilst emphasising the need for fairly easy successes in order to build 'self-confidence', another participant stated 'I think you've got to be careful that you don't help them to avoid things they find difficult all the time' (P5). Distinguishing difficulties related to dyslexia from those from a lack of instrumental practice was highlighted by several participants: 'You often wonder "Is the student practising or is there a dyslexia issue?"' (P21). This raises several issues including decisions about whether pupils should avoid 'harder' instruments and how much of accessibility should be about making the tasks themselves easier or adding scaffolding around them to support them, and how much about equipping students with the toolkit they will need to build their own scaffolding. Another possibility relates to dyslexic students not practising because of underlying issues which are preventing their practice from being meaningful and productive.

Some students, especially older students, were able to articulate the things they found useful or not useful, as illustrated by this teacher's experience with note making on the score: 'One girl says "It's just too much information on the score and my eyes don't like it"' (P11). At other times, a student might not be able to articulate what they see or what is not working for them:

I think a lot of students with processing issues of any kind are used to going through school life sort of assuming that they can't expect to understand anything

completely in the way that they see others doing; this is particularly the case for those who remain undiagnosed. (P2)

In summary, a teacher's observational skills and experience were significant factors in recognising approaches that might be effective. Dealing sensitively with the student's self-esteem, recognising the student's difficulty threshold, carefully choosing informed strategies and setting realistic expectations of progress were key elements of navigating the learning process in a way that was rewarding for the teacher and student.

### **6.4.3 Lack of control over the learning environment**

A teacher's lack of control over the learning environment may be an obstacle to the student's progress. A teacher mentioned an adult student's concern that 'certain lights really upset them, the glare; they had to move their place in the room, and adjust the lighting so it's not too [bright]' (P11). These difficulties might affect teachers who are teaching in schools, without much natural light or in noisy or distracting environments; equally, a student's own home might not be set up in an ideal way to support their learning.

Online lessons presented difficulties for teachers in terms of the limitations of technology, with a teacher reporting that an online lesson was held with the mother holding a phone for the student which was moving constantly and made it difficult to track what the student was doing (P17), and describing how it was much more difficult to point out notes on the piano (P21). The instrument at home might be poorly tuned which could make it difficult to assess the student's performance (P17). Another challenge with online lessons was that it might increase the student's self-consciousness if their family overheard them playing or singing as the lesson may be situated in a more public space within the home (P16). These findings highlight the challenges faced by teachers who may be aware that certain environments are not conducive to learning for their dyslexic students, with online lessons creating a number of challenges, and underscores the tensions between a desire to support the student and circumstances out of the teacher's control. This also links to the importance of adaptability as teachers and students find ways of overcoming these challenges together.

#### **6.4.4 Recognising when a student is experiencing stress**

Teachers experienced challenges with understanding perplexing behavioural outcomes in lessons, although teachers recognised that it was also a challenge not to make assumptions based on student's responses or behaviour (P10, P13, P20). Being either 'self-driven' or 'apathetic' can be an indicator of a dyslexic student experiencing stress; as one teacher noted, 'they're just so used to failing' (P22). P13 reported that 'Often, I find that the students are really shy and they think they can't do anything' (P13). Noting a behavioural difference between genders, one teacher stated:

Some of the students who struggle with self-esteem walk in and they can be totally 'bolshy' ... It seems to me that girls will come in and verbalise their problems and frustration, but boys come in and act like 'Whatever, yeah' and that may also be because they can't do it. (P18)

A piano teacher called attention to the issue of 'masking', referring to 'a child that's extremely good at pretending everything is okay when it's not at all' (P5). This highlights the need for teachers to exercise caution in assuming that students have understood what has been taught. The uncertainty that arises when a student avoids an activity or presents with confusing behavioural clues highlights the need for teachers to develop a supportive relationship with each student individually, but also the importance of adequate training and knowledge. Findings suggest that stress might emerge in a variety of behaviours. P11 observed a lack of confidence being shown through students' 'poor posture and low energy' as well as the following behaviours:

Frustration comes out in the lesson, a lot of self-castigation, or apologising. And I would ask them why they feel the need occasionally to apologise or to be so upset and try and get to the bottom of what their belief is about it, and then try to help them. Show them what they can do when they approach things differently. (P11)

This indicates that teachers may need to gently probe students to find out what is behind their behaviour as well as offer reassurance. A teacher with dyslexia described how her dyslexic students 'are sharp at what they can get away with, covering up' suggesting that

she recognised the emotion behind this, stating that ‘we’ve done it our whole lives because we don’t want to be embarrassed’ (P21). Other indicators include visual stress:

A reluctance to look at the book, and complaints about their eyes hurting, the music jumping around or rubbing their eyes or taking their glasses off and cleaning them; you recognise that the student is getting quite stressed with the book. (P25)

Dyslexic students with co-occurring conditions might also exhibit stress in different ways. A teacher related their experience of teaching a dyslexic student with ADHD, recalling that ‘if I try to challenge them too much, it becomes too much of a conflict for them’ (P12). These findings suggest that indicators of stress might be seen as avoidance or reluctance to perform specific tasks and might be displayed in a variety of ways from low energy, negative body language, and visual complaints to self-castigation. A good relationship and honest communication with the student may enable the teacher to understand the backdrop of the behavioural issues which are present.

#### **6.4.5 Developing the student’s understanding of dyslexia and their own metacognitive processes**

Teachers found that students did not always have accurate information about dyslexia and the challenges it might create for them as well as their metacognitive approach to music learning. At times, this meant giving reassurance: ‘I explained to them that it is normal for them to have difficulty with the scores and most have never heard this before; lots of them think they are alone’ (P15). A piano teacher described their experiences with a dyslexic student who struggled with sight-reading:

I said to him [that] his brain is working fine, it is just the way that music is written down is not working for him. If he had devised a written music system, he would find it easy to read and I would find it impossible! (P2)

These responses demonstrate empathy as well as an awareness of the importance of encouraging self-reflection. This emphasis of a student examining their own learning and playing was seen as crucial, as a teacher recalled of his teenage student that ‘If you could self-reflect and actually understand where the errors are in your own performance, then you are sorted’ (P12), though this might be more challenging with younger students.

When asked about their own performance, students always focused on negative aspects according to a teacher who found a way to counter this: 'I start with looking at the good things, and then we look at the bits that didn't quite work' (P2). Teachers' responses indicate that reassurance and positive feedback, as well as encouraging the student to assess their own playing and develop their understanding of dyslexia, contributed to growth in a student's self-awareness.

### *6.5 Challenges faced by teachers with dyslexia/neurodivergence*

In this study, self-reported neurodivergent teachers referred to their own past negative educational experiences as a motivation for improving the learning environment for students and participating in this research. Of the twelve teachers who disclosed their own dyslexia or neurodivergent conditions, the main challenges centred on the inaccessibility of pedagogical materials for dyslexic teachers, and difficulties related to their specific neurodivergence, including short-term memory recall and sight-reading during lessons. However, these teachers recognised an advantage in that they could relate to their students' frustrations based on their own experiences. One teacher found it useful to empathise with them: 'I say "Do not apologise, we learn by making mistakes" and I still make mistakes when I am sight-reading their pieces... I point it out and try to encourage them' (P13).

Teachers found that it was useful to share their own experiences with dyslexia for the purposes of reassuring the student and also as a means of promoting awareness of the positive aspects of dyslexia. Conveying a sense of advocacy was also seen as an important challenge, with one vocal teacher stating it was 'once I realised there was a difference in the way I perceive things, I started very consciously to develop strategies' (P19). A dyslexic teacher who had negative educational experiences reported that 'I don't want anyone else within my educational sphere of influence to suffer or go through what I had to go through' (P12). Being able to impart this concept to dyslexic students might be a valuable way of helping them to overcome negative attitudes or emotions. At the same time, a dyslexic teacher may need to exercise caution in managing assumptions and maintaining a flexible approach by being aware that their dyslexic students may have different learning profiles, personalities or past experiences.

### **6.5.1 Limitations caused by the inaccessibility of material**

Most of the research and pedagogical literature is text-based, and this impacts the accessibility for some dyslexic teachers, as one participant noted, stating that ‘the BDA book about Performing Arts<sup>23</sup> was very good, but I’m not a good reader, which is my problem’ (P12); their solution to this issue was found in verbally communicating with another teacher: ‘I do talk to a SENCo [Special Education Needs Coordinator] who is also dyslexic’ (P12). Another participant stated that ‘Some of the books are too long and I need some pictures as my own issues with dyslexia affect me’ (P21). Therefore, further consideration is needed in relation to the accessibility of material provided to inform and support all teachers, not just those who are neurotypical.

### **6.5.2 Challenges related to the particular learning difference**

Teachers related negative experiences in either teaching or in training which created challenges for them. One teacher related her feelings, stating that: ‘to begin with it was the most terrifying thing I have ever done because I thought “I have to keep up with this student”’ (P13). Referring to their own coordination issues when they attended a Dalcroze training session, a teacher stated that:

The rhythm games are very physically complex and if you are mildly dyspraxic, it is horrific. I remember being at a session, sitting at the back and wanting to cry because I wasn’t very good at it. (P5)

This sense of shame was also referred to by another piano teacher who felt that they were often put under pressure to sight-read in various capacities. As one piano teacher noted, ‘I have learned to say “no” because it is so embarrassing when I’m trying to read something pretty elementary and I just can’t do it’ (P21).

Preparing students for exams was another area of stress, with a dyslexic teacher relating: ‘That’s when I get anxious; I don’t feel like I can support students through sight-singing to the level that is expected in that environment of the exam culture’ and ‘Sometimes I will even say to them, “Why don’t you go to see a piano teacher for a little bit and do a bit of sight-singing with them as well?”’ (P16). This suggests though that there seems to be

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<sup>23</sup> Daunt, S. (2012). *Music, other performing arts, and dyslexia*. Published by the British Dyslexia Association.

reluctance or shame on the part of some teachers to acknowledge that another teacher might be better able to support the student in a specific area.

Other participants referred to similar challenges: 'My ability to recall music was probably affected by my dyslexia' (P12). Sight-reading issues (as stated in 7.6) especially affect teachers who may need to demonstrate for students, as one participant described: 'If they are having issues, especially with the early pieces, I will play for them [but] as they get into intermediate, I will play through *as I can*' (P21).

While some dyslexic teachers see themselves in an empathic role with dyslexic students, students' difficulties may remind dyslexic teachers of past negative experiences, as one participant recalled: 'What I get a lot from these students with issues is anxiety and a sense of failure; I recognise that from my time in school [as] I constantly felt that I was failing and not good enough' (P25). Having experienced many of the frustrations which their dyslexic students face, neurodivergent teachers appear able to empathise, but they reported some barriers in carrying out tasks as teachers and performing musicians.

## *6.6 Summary of findings*

In summary, teachers reported several barriers related to research, training and resources, as well as in communication with parents and schools. A summary of the challenges faced by teachers relates to the teaching context, behaviour, learning environment and understanding of the student's way of learning.

### **6.6.1 Barriers related to research, training and resources**

- Findings suggest that although teachers report seeking research and information related to music and dyslexia, they struggled to find it and recognised the need for more formal research, training, and practical resources. This includes well-designed method books which are accessible to dyslexic students, as well as research and information related to technology and its application for dyslexic students.
- Teachers were aware of the variances in information related to coloured overlays and felt more research was needed to clarify their usefulness.



- A recurrent theme in the interviews was that as instrumental teachers often work in isolation, learning tends to be informal and non-research-led, and this may lead to assumptions and misconceptions about dyslexia.
- Assumptions reported by participants include the belief that dyslexia only affects text, that every person with dyslexia is the same and that the same strategies will work with all dyslexic students.
- Teachers might be reluctant to take dyslexic students for a variety of reasons.
- Teachers recognised several barriers and challenges related to preparing students for exams, including selecting an exam board, obtaining information, preparation for exam requirements, coaching needed for using reasonable adjustments and managing parental expectations.
- An important theme was that whilst a minority of teachers had dyslexia training, there was a consensus that this minority sought to apply dyslexia literacy approaches in their music teaching practices.
- A few interviewees reported a need for resources and materials that are accessible to all teachers, not just those who are neurotypical. Although they were able to empathise with dyslexic students, neurodivergent teachers attributed their difficulties with certain tasks in their teaching practice to their neurodivergence.

### **6.6.2 Barriers in communication with schools and parents**

- Some schools were reluctant to acknowledge students' challenges with learning; participants suggested that limited finances and resources might be the root cause.
- Concerns regarding poor communication with parents emerged, and whilst most participants agreed collaboration with parents was important, they recognised challenges in recruiting their involvement and managing their expectations.
- Findings suggest that parents may not always believe that disclosure is relevant for their child's music teacher.
- Teachers diverged in their belief that they should report concerns to parents, as some felt that it might lead to better outcomes for the student whilst others felt that

it might create tension with parents. The latter considered that parents should be the ones to lead any such discussion.

- Participants indicated that parents, especially parents with dyslexia, may react defensively if the teacher addresses their concerns about the student.

### **6.6.3 Challenges**

- Teachers reported that whilst it was challenging to identify undiagnosed dyslexic students, the students might be reluctant to disclose. Lesson observations as well as comparison of their difficulties with those of assessed students were common starting points.
- An important theme was that behavioural issues might be an indication of student stress. Teachers found this challenging to interpret at times and one participant noted that there might be gender differences in the way it was displayed.
- A subtheme of behavioural issues was the idea that dyslexic students may 'mask' or hide their difficulties.
- Teachers found balancing the difficulty level of repertoire and knowing how to support, whilst also maintaining the student's self-esteem, to be a challenge.
- Participants noted that developing the student's metacognition was a challenge which they attempted to overcome through reassurance, explanation of how dyslexia affects individuals, encouraging self-reflection and focusing on the positive aspects of the student's efforts.

## ***6.7 Conclusion***

Findings indicate that teachers experience barriers related to a lack of training, research and expertise, as well as those linked to communication with schools, parents and students regarding disclosure and support. One interesting finding is that teachers tended to correlate poor strategy selection to assumptions and misconceptions about dyslexia, based on a lack of knowledge and experience. Most striking was the substantial difference between teachers who had dyslexia literacy training and those who did not in terms of an

awareness of strategies likely to benefit dyslexic students. The results of this study show that teachers face significant challenges in identifying dyslexic students, selecting appropriate strategies, recognising student stress and encouraging the development of metacognition. Further challenges were reported in communication with schools and parents, as teachers sought to navigate their expectations sensitively. Some parents reported to music teachers that primary schools seemed unwilling to acknowledge issues with dyslexic students; this may pertain to funding. On the other hand, some parents may welcome the information, act as advocates for the student and have a greater understanding of their own or other family members' dyslexia. Choosing relevant method books or repertoire required teachers to be discerning about student's needs; there appears to be a lack of appropriately structured material designed with dyslexic students in mind. Some teachers expressed concern about the lack of information guiding them in the use of appropriate technology for dyslexic students, particularly training apps, and there was concern that screens and devices could not replace quality teaching approaches. Motivated by their own learning experiences and feeling able to deliver lessons with empathy, a group of self-reported neurodivergent teachers described challenges which might enable insights to better support them as colleagues and in workplace environments such as schools or music hubs.

## **REFLECTIVE STATEMENT 3: MY BARRIERS AND CHALLENGES**

### ***RS3.1 Barriers: Lack of knowledge***

Bronfenbrenner and Morris (2006) refer to the chronosystem of the bioecological model and like tracing footprints on a journey, this reflective statement is meant to give some sense of time to my development as a teacher. I started this journey much like many of the teachers I interviewed. Prior to studying on the MA Music Education: Instrumental and Vocal Teaching course at the University of York, I had never received an explanation or had much understanding of dyslexia in my educational experiences. My primary and secondary school years took place in the 1970s and 1980s and I do not recall hearing the term 'dyslexia' ever being used. During my years in university, in the early nineties, I cannot recall a single discussion on dyslexia. Until the MA, my instrumental music learning experiences were mainly in the form of tuition with a single teacher, and as I am not dyslexic, the issue was never raised. When I began teaching piano lessons in 2012, apart from some continual professional development courses through the local music service, most of my growth as a teacher was from informal conversations or through my experiences of teaching.

This lack of awareness contributed to my feelings of unease when I had a student who seemed to struggle with specific patterns of difficulties, and this created a discrepancy when compared with their understanding and knowledge overall. It was during my master's dissertation project in 2017 that I began to look for literature on the topic and found, just as the teacher participants in Chapter 6, that there was very little information or practical strategies available. I read Oglethorpe (2008) and Miles et al. (2008) and whilst that developed my understanding further, it also served to underscore the complexity of dyslexia and the different ways in which it might affect individuals. Most of the literature seemed to focus on anecdotal experiences rather than foundational principles for teaching music to dyslexic students.

### ***RS3.2 Challenge: The term 'dyslexia'***

I realised that although I was looking for answers to some of my questions and hoping to find direct solutions, dyslexia is far too complicated to allow for simplistic answers. I recognised that this may be the reason for the lack of available information. There was also

a dilemma as I came to realise that the term 'dyslexia' was inadequate as an explanation for the differences that might be seen. The terminology used is important and has ramifications for the way dyslexic students view themselves, are viewed by their teachers and parents and whether they qualify for support and accommodations.

### *RS3.3 Challenge: My own assumptions*

A greater understanding of dyslexia has certainly developed in the past twenty to thirty years, and the shift from a medical model of disability to a social model implies that we need to change the way we teach and the materials we use to be more effective teachers for dyslexic students. Correlated to my lack of awareness of Oglethorpe's (2008) book prior to this research, I found that many teachers I interviewed for this research or met in workshop settings were unaware of this book. Teachers appeared to be looking for quick fixes and easy solutions to teaching dyslexic students, such as offering students coloured overlays. I recognised that my lack of understanding and knowledge caused me to misinterpret some of the challenges I faced with my students, believing their challenges to result from a lack of practising or insufficient effort on the student's part.

My own experiences with dyslexic students showed me how easy it was to make assumptions about their work ethic when the problem might have been a concentration or processing issue. I realised that I needed to be more sensitive to dyslexic students and that their previous learning experiences may have been rooted in failure or encouragement to 'try harder' when in fact, they were trying their best. I tried to develop more empathy through questions about their experiences. This led me to value the uniqueness of each student, including their needs and strengths.

### *RS3.4 Challenge: Choosing teaching strategies*

In the Reconnaissance cycle of my research, I was aware of several strategies which had been shown to be beneficial in working with dyslexic students from the literature. These included the general strategies which had been shown to be effective in literacy training: multisensory, repetition, systematic, structured and personalised. Strategies which I used with my student, prior to my research, incorporated more aural pattern work and enlarging music for sight-reading. We increased duet playing, and this seemed to build some

confidence. Duet playing seemed to deflate the sense of comparison or competition they felt when peers were playing more advanced pieces at a recital. I wondered whether there were teaching strategies and methods to help dyslexic students overcome those challenges and whether the next stage of my research would provide insight as to how to put them into practice.

Like the teachers interviewed for my research, I was not aware of applications or specific software which might be beneficial for dyslexic students. With experience of submitting students for music exams since 2012, I was not aware of the process of applying for reasonable adjustments nor how to prepare the student for using these in a music exam.

### *RS3.5 Challenge: Recognising strategies of resilience and support that enable flourishing*

Listening to Anna Devin's session 'Thoughts from a dyslexic opera singer' at the British Dyslexia Association Music and Dyslexia conference in 2018 highlighted the resilience and determination needed as a musician with dyslexia. My notes indicate that Anna underscored the importance of her parents' and teachers' support. She described her strategy of walking out the storyline of a piece to stimulate her memory recall. This was like the narrative reasoning strengths described by Eide and Eide (2011). I was curious about her mention of having a teacher who was Froebel trained. Friedrich Froebel was a German educator who believed in the uniqueness of each individual student, that learning develops from a sense of curiosity and play, and the need for knowledgeable and supportive teachers, families and communities (Watts, 2021). There are similarities in this approach to the Universal Design for Learning framework (CAST, 2018) which is described in greater detail in the literature review (Chapter 2), and which is not well-known amongst the music teachers I interviewed and worked with in workshop environments. I became aware of UDL (which is discussed further in RS5) through an internship in digital accessibility at the University of York and could see the potential of using it for lesson planning for students, especially for my dyslexic students.

### *RS3.6 Conclusion*

Just like the teachers in my research, I faced barriers and challenges in teaching dyslexic students, from my starting point of a complete lack of knowledge and experience relating to dyslexia to my search for literature which would help me to become a more knowledgeable and effective teacher. I was fortunate to have two influences which deepened my understanding: the community of the music department at the University of York and the British Dyslexia Association music committee. Through this, I interacted with teachers who had more extensive training and knowledge in working with dyslexic students.

Bronfenbrenner and Morris (2006) draw on Elder's (1998) life course theory in their bioecological model, which traces 'historical time and place, the timing of lives, linked or interdependent lives, and human agency' (p. 4) in their framework for individual development.

This reflective statement has identified the implications of time in the rationale for my research project by highlighting the limitations in the form of barriers and challenges which I faced at the beginning and factors and relationships which influenced my understanding. The following list describes the next four reflective statements which evidence how these findings are embedded in my teaching practice and are interspersed with the findings chapters. I discuss transitions in my development in the following areas:

- Reflective Statement 4: Transitions in power and knowledge dynamics between teacher and student
- Reflective Statement 5: Shifting from a deficit-lens to a strengths-focused teaching approach
- Reflective Statement 6: The transition from novice approaches to the use of research-informed strategies developed within the framework of Universal Design for Learning to guide lesson planning thus enhancing my tacit knowledge of students and effective teaching approaches
- Reflective Statement 7: The development of greater empathic awareness with my students and their families as well as the wider community of dyslexic individuals; I also reflect on the impact on teacher well-being and importance of preventing compassion fatigue

## **Chapter 7 FINDINGS FROM TEACHER INTERVIEWS: STUDENT CHALLENGES AND STRATEGIES**

### *7.1 Introduction*

This chapter describes the following themes of student challenges and corresponding pedagogical strategies that emerged. Subthemes connect the primary difficulties teachers associated with dyslexia (7.2), including slow processing speed (7.2.1) and executive function deficits (7.2.2) with corresponding general strategies (7.3). The characteristics of low self-esteem and meditating strategies (7.4), coordination and spatial awareness issues and strategies (7.5), visual processing difficulties and strategies (7.6) and specific sight-reading strategies (7.7) are explored in the second half of this chapter.

Chapter 2 of this thesis provides an in-depth overview of the academic and pedagogical material available regarding dyslexic student challenges and teacher interventions. Published literature (Miles et al., 2008; Oglethorpe, 2008; Nelson & Hourigan, 2016; BDA, 2024) and self-published material (Aloba, 2020) largely consist of anecdotal experiences of instrumental teachers or dyslexic music students. Studies on adaptive music notation suggest that the use of score enlargement (Flach et al., 2014) and the use of a colour stave (Hubicki & Miles, 1991) have been beneficial to some dyslexic students. Many strategies draw on recommended literacy teaching techniques for dyslexic students struggling with reading; these include multisensory teaching, simplification, highlighting important information, carefully considering the learning environment, overlearning, assistive technology, the use of explicit instruction strategies, structuring the material systematically and adapting to individual learners (Phillips & Kelly, 2016). For some dyslexic students, previous educational experiences have been negative and learning environments may be a cause of stress (Livingstone et al., 2018) with teachers encouraged to display sensitivity (Oglethorpe, 2008, p. 28).

### *7.2 Student challenges identified by teachers*

Consistent with the literature, teachers reported several areas of challenge with their dyslexic students. Although findings suggest that these difficulties commonly result in issues



with sight-reading as it tests multiple skills simultaneously, in some cases (P7, P8, P14, P17), teachers reported dyslexic students who did not struggle with sight-reading. P8 states:

I don't think that all dyslexic kids have problems reading music. That's just my anecdotal observation. And not all kids who have problems reading music are dyslexic. But I think there is some crossover and I think it's more about brains that are just wired differently and for that particular skill. (P8)

This may suggest that some students have either mild dyslexia or less difficulty reading symbols than text, although pinpointing the exact causes or understanding the exact effects of remediation strategies is not always possible.

Sight-reading difficulties ranged from an inability to read or understand music notation to confusion with the lines and spaces to an inability to connect the score to the instrument. Musical concepts and lyrics also presented text-based or memory recall problems. Several teachers observed that not all dyslexic students struggled with rhythms (P2, P11, P26) and one teacher reported having dyslexic students who were 'excellent at rhythm' (P15). However, some dyslexic students had difficulty 'internalising the pulse' (P5, P25), recalling the rhythm (P4, P6, P13), processing or distinguishing the rhythm symbols (P24, P25, P26), feeling the duration of a note (P4, P22) and combining pitch and rhythm together (P4, P26). Teachers reported that students struggled to recognise when a melody line was going up or down and coordination issues sometimes prevented dyslexic students from being able to move the piece forward without compromising the pulse.

As might be expected with a spectrum condition, teachers reported variances in the types and severity of the difficulties experienced by their students. This suggests that there is overlap between many of these areas; for example, rhythmic difficulties might result from coordination problems, but could also be an aural processing or sequencing issue. High rates of co-occurring conditions like autism, attention deficit/hyperactivity disorder (ADHD), dyspraxia or developmental coordination disorder (DCD) (Hendren et al., 2018; Moll et al., 2020) amongst individuals with dyslexia complicate the process of identifying the cause of difficulties. As Snowling et al. (2020) observed, 'A central theme in the history of dyslexia is the tension between the specificity of the disorder and its complex association with other

forms of learning disability' (p. 501). The difficulty of distinguishing specific challenges highlights the importance of teacher training and an understanding of co-occurring conditions, the development of student profiles and letting a personalised approach drive lesson preparation.

### **7.2.1 Slow speed of processing**

A participant recognised that the 'speed of processing is a primary challenge' (P4) for dyslexic students. Drawing a comparison to reading, another teacher stated:

Musical notation is a desperately complicated code anyway. There can be difficulty in recognising a pattern and I think there is an analogy to be drawn between looking at notes on a page and looking at letters and words on a page. I think when a child is learning to read, they will sound out letters individually in a phonic way to make the sound of words. I think the same kind of thing can happen with things like scales and arpeggios, seeing a group of notes on a page and having to process every single note and go through all the ponderous stages, can sometimes indicate that there is a difficulty. (P23)

Note and rhythm reading, alongside other information like tempo, dynamic and pedalling markings must be assimilated in time, in addition to the placement of hands and selection of the correct notes. Other instruments might have different processing demands, for instance with embouchure or maintaining pressure on valves or a bow whilst also reading a score of music. Thus, the combination of physical and mental processing was reported to be a limiting factor for some dyslexic students.

### **7.2.2 Executive function deficits**

Executive functions are core skills which affect many aspects of student development; they consist of 'inhibition and interference control', 'working memory' and 'cognitive flexibility' and provide the foundations for 'reasoning, problem solving and planning' (Diamond, 2013, p.2). Teachers reported limitations in dyslexic students' executive function skills, including concentration, disorganisation, cognitive load, working memory and sequencing.

### **7.2.2.1 Concentration**

There was some variance in how teachers viewed students' concentration abilities. Several teachers observed that dyslexic students struggled with focus and attention (P1, P2, P3, P4, P6, P7, P11, P18, P24, P26). Another teacher felt that the attention issues might be related to weak memory skills: 'One minute they might see a note and say 'This is D' and the next bar, they do not know what the note is; that is quite frustrating' (P26). Two teachers (P21, P26) debated whether this was a co-occurring issue like ADHD or the students' frustration tolerance levels.

### **7.2.2.2 Organisation**

Teachers noted that disorganisation (P1, P4, P6, P10, P23, P25) was a challenge with students forgetting instruments, notebooks, music or lesson timetables. The variance in how dyslexic students might cope with executive function challenges is highlighted by one teacher's reflection of secondary school music students:

There are difficulties with organisation, absolutely. Not always, [but] some of the students have built these coping mechanisms of trying to be hyper organised and you look in their folder, it is beautifully arranged and labelled but the content of the work might not be very good to an absolute standard. (P23)

Being mindful not to blame a student's struggles with organisation on being lazy or not caring was also described as an important aspect of offering support.

### **7.2.2.3 Cognitive load and poor working memory**

Teachers recognised that dyslexic students might become overwhelmed with too much information. A participant reported that students appeared to have varying levels of ability possibly based on competing demands on cognitive ability from stress or poor memory issues:

Students come to me they say, 'Oh, but I could play it this morning' and I know that scenario, but this is something [else], the difference between really being almost ready to perform to standard one lesson and then sight-reading and tripping over notes and rhythms the next lesson. (P6)

This could again be a useful indicator of dyslexia as well as another opportunity for a teacher to adjust content and teaching approaches to align with the student's cognitive and emotional state.

Despite findings suggesting strong long-term memory strengths (see Chapter 8) for some dyslexic students, poor working memory was described as a significant challenge:

The working memory, or the bit that you would use if I told you something and then asked you to write it down, can get stretched and gets overloaded quite quickly. So, you can give shorter instructions, short clear instructions and break things into chunks, and it can be very much more effective. (P4)

Therefore, challenges can emerge both within the work during a lesson as well as between and across lessons due to cognitive load and working memory issues.

#### **7.2.2.4 Sequencing**

Teachers reported challenges for dyslexic students with sequencing across a variety of contexts (P2, P3, P4, P5, P22, P26). A piano teacher would ask their students a series of questions to establish their sequencing abilities: 'Can they follow a sequence forward and backwards? Do they know what day or month it is? Do they know what time it is?' (P4). Another piano teacher identified this as the challenge of 'working out what has to happen in which order' (P2). Sequencing and pattern recognition are closely related; the following excerpt explains how these difficulties intertwine to slow the speed of sight-reading with scales and patterns in pieces:

Sequencing is a problem. If you are learning a scale, you tend to spot the bottom note and the top note and then play the scale. I've had quite a few dyslexic students who just can't do that. They read every single note and cannot seem to sequence between them. They also can't sequence or recognise similar notes in the music. For example, the music drops to a 'B' but they don't recognise that it was the same as three notes back. It's that recognition of patterns and shapes and remembering the note names that are huge issues. Note names have to be 'written in' all the time. (P26)

An interesting contradiction is noted as patterns are described as strengths for some dyslexic students (see Chapter 8) and as a weakness for others. A teacher suggested a strategy for reminding students of the sequence of intervals in scales:

Using a visual representation of intervals was a strategy developed by one participant in order to help dyslexic students distinguish the tone and semitone interval patterns of scales: 'The dot is the note you play and the T [tone] and S [semitone] are the interval to the next note; it's particularly useful for melodic minors' (P2).

The visual represented here is for the major scale but represents the sequential process:

• T • T • S • T • T • T • S •

Students would write the visuals on notecards and memorise them, and for them this was a more effective strategy than reading the scales on a score.

## **7.3 Strategies designed to mediate slow processing and executive function deficits**

### ***7.3.1 General dyslexia literacy teaching strategies***

A minority of teachers were aware of dyslexia literacy teaching strategies and applied them to their music teaching.. Another participant with dyslexia training described how multisensory teaching combined 'expressive and receptive teaching', adding that 'you don't just teach them from one direction' (P8) as a means of reinforcing learning. Several sub-strategies or combinations were described by teachers; for example, one teacher described a strategy of explicit instructions (structured and systematic) which were consolidated through repetition (overlearning) on the piano, stating: 'We worked by mapping out every single step she needed, identifying notes and then moving to them and working out in which order moves had to happen in' (P2).

### ***7.3.2 Modelling or physical demonstration***

One multisensory teaching strategy that was described by teachers was modelling. Teachers described the effectiveness of modelling by singing or playing the music for the student. Similar to strategies suggested for students with visual impairments (see Chapter 2), physical demonstration could involve physically moving the students' hands into position.

There are important safeguarding aspects to consider with this approach such as consulting parents or guardians if the student is a minor, making sure that the lesson takes place in an area visible to others and ensuring that the student understands the purpose and is comfortable with it before proceeding.

### ***7.3.3 Simplification of concepts or material***

Participants reported that breaking concepts and instructions down into smaller units, or chunking, was a frequently used strategy. A teacher noted: 'We try breaking things down into bite-sized units; this is a good teaching strategy for all students but particularly for students who struggle with processing' (P23). Highlighting and presenting a smaller amount of information, where elements are separated out and dealt with singularly, are strategies which are advocated by the dyslexia literacy literature (Phillips & Kelly, 2016). The teacher reported that 'if I take the processing overload out, then I can get them to see the pattern, but they can't see the pattern if they have everything else swimming around as well' (P5). A piano teacher reported that dyslexic students struggled to remember acronyms like 'All Cows Eat Grass', so they reduced the information needed in order to enable a starting point for understanding:

I just teach them the bottom line in bass clef is the Ground and they can remember that. Then we work up by skipping on the piano. The bottom line on the treble clef is Earth, so you only have to remember two words. Then you can work out all the lines and spaces from that. (P18)

### ***7.3.4 Kinaesthetic learning***

The combination of touching notes on the keyboard, hearing them and connecting them to the score (multisensory – visual, aural and kinaesthetic) in addition to reducing the information load were seen as effective simplification strategies. In comparison to teaching non-dyslexic students, one teacher noted that 'The other things that I would notice were that general concepts had to have a much greater number of steps' (P5). Taking time for the student to process information slowly and carefully enables a greater opportunity for accuracy, particularly when identifying note names or patterns. Simplification by slow process was seen as an important way to handle limited automatic processing issues:

I do an awful lot of things slowly because a lot of automatic processing happens by the students and they take the bits they need to and so for a dyslexic student or a student with processing they need some help to find that list of instructions. (P2)

Reducing complexity, highlighting, linking and reinforcing were identified as valuable strategies to support student learning; these strategies might help the student to tolerate frustrations that arise due to task difficulty and primary challenges (Phillips & Kelly, 2016).

#### **7.4 Low self-esteem and mediating strategies**

Teacher experiences correlated similarly to research into impacts on dyslexic students' social, behavioural and mental health (Wilmot, 2023; Livingstone et al., 2018; Novita, 2016). Low self-esteem was observed in dyslexic students with 'poor posture and frustration coming out in the lesson, a lot of self-castigation or apologising' (P11). Referring to one pupil who also struggled with coordination issues, a teacher noted:

That was sad actually. He became really grumpy and shrugged his shoulders and got a bit [frustrated]. I mean typical sort of teenage boy, but it was a bit more sort of extreme. (P7)

Another participant noted that psychological issues were 'variable' and some that students were proud of their successes with some 'really good at playing the piano and good at performing and they do concerts and get a boost from that to all sorts of things with low self-esteem' (P7). Another participant stated:

There are all sorts of different responses from students about their own abilities. Some are quite sanguine about it and think "That's just the way I am" and others beat themselves up and need a lot of reassurance. (P23)

This indicates that teachers may encounter varied responses from dyslexic students based on factors such as self-concept, disposition and past learning experiences. The following section discusses general strategies which were used by teachers to counteract issues of low self-concept amongst dyslexic students.

#### **7.4.1 Reducing stress for the student**

A teacher reported that when the student was overloaded and needed a respite from verbal instructions, they would use games:

We use 'Music theory Wrap-ups'<sup>24</sup>, which are excellent for giving them something to do with their hands while reinforcing learning at the same time ... dyslexic students seem to especially love them because they are puzzles. (P21)

The teacher suggested that these were valuable for students as they were a multisensory tool which enabled them to check their own understanding .

#### **7.4.2 A focus on praise, encouragement and activities that give a sense of success**

Teachers referred to the importance of praise, encouragement and activities that give a sense of success as a means of reducing stress for dyslexic students. A piano teacher recognised the value of awareness and reflection on how students respond to praise: 'Do they positively glow with pride when you say "Well done"? Do you get the sense that they are not used to having that kind of praise?' (P4). In order to support successful engagement, P25 preferred a simplification strategy rather than attempting to avoid the student's areas of difficulty:

I wouldn't skip the score completely, I would rather simplify the score than take it out of the situation completely. Otherwise, they will struggle more with it (P25).

#### **7.4.3 Considering the pace of the lesson and the students' needs**

The pace of the lesson was seen as another important factor, although teachers varied in their responses. Keeping the student's concentration and attention was this participant's goal:

I find myself planning loads and loads of different activities because of their concentration levels, anything that has to do with clapping, standing up, pulse, rhythms, flash cards, and massive cards with rhythms. Otherwise, without breaks, even for half an hour, it just would not work. (P25)

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<sup>24</sup> <https://learningwrapups.com/category/music-theory>



Another teacher noted that it was not helpful for the pace to be 'frenetic' for students with attention problems and highlighted the importance of balance in the amount and type of lesson activities (P4).

#### ***7.4.4 Creating a positive learning environment***

Teachers saw the importance of creating an atmosphere where students could comfortably make errors without feeling a sense of failure. This was described by a vocal teacher:

They've got that feeling of anxiety, 'Is this going to be right or wrong?' I'll get them to sing a tune, so the first one is 'Happy birthday' and I'll be the out-of-tune aunt at the party. I'll sing out the wrong tune over them and they'll cringe and then we swap. They think 'That was horrible' but then they recognise how hard it is to sing out of tune because your brain just wants to follow the pattern. (P16)

Using these strategies as a means of building confidence was reported by a teacher preparing their student for aural test exams:

I encourage them to just guess the melody because it will always end on a perfect cadence and will always end on the tonic. So, I play a little game with them where I don't play the second half and they have to make it up. Then I show them the ending and they are surprised that it is often very close to what they have made up even though they haven't heard it. That gives them quite a lot of confidence that they can work out the second half even if they can't remember it. (P26)

Teachers used a variety of general strategies as a means of overcoming the potential primary challenges of slow processing, weak executive function skills and low self-esteem which were potential markers of dyslexic students. These strategies included multisensory, overlearning, personalised, systematic and structured instruction, modelling, demonstration and the simplification of concepts or materials. Strategies reported by teachers to reduce stress for dyslexic students focused on praise and encouragement, building on their previous achievements, pacing the learning according to the student's need and ability and creating a positive learning environment.

## 7.5 Coordination and spatial awareness issues

Coordination issues include overlapping difficulties with independence of hands and fingers, coordination of hands and feet, spatial awareness and poor handwriting skills. Judging spatial distances was also considered to be an indicator, as one teacher reported: 'When a person can't judge distances between notes, that might mean they are dyspraxic' (P18). Dyspraxia/DCD (developmental coordination disorder) is described by the NHS (2024) as 'a condition affecting physical coordination' which 'causes a child to perform less well than expected in daily activities for their age and appear to move clumsily'. Teachers recognised that there was complex overlap with different learning differences amongst students, as P26 described 'There were some [issues] with coordination and a big crossover between dyslexia and dyspraxia and ADHD and autism' (P26). It was recognised that beginner pianists might be able to hide some of these difficulties, but when they came to playing more complex pieces 'there might be problems with playing the pedal, coordinating feet or coordinating hands to play together' (P25).

Another participant related coordination to the student being able to control specific movements: 'What is consistent [as a challenge] with dyslexic students is their coordination; it is their eye-hand coordination as well as their independence' (P21). One teacher recalled a game they would use if the student seemed confused about left or right:

With little ones I play this 'Can you pick up my pencil?' game, and you play it quite a lot. 'Can you pick it up with your right hand with fingers one and three?' Make it a game, but if they are struggling with finger numbers or with left and right, that will tell you something. (P4)

While the Dalcroze method was reported to be an effective strategy for students with rhythmic challenges, it was viewed as less helpful for those with coordination issues, according to one participant who stated that: 'You have to make it a much simpler thing and you have to limit the amount of coordination that's needed, and always ask them what they are comfortable with' (P5).

Teachers recognised a lack of spatial awareness with dyslexic students:

Spatial awareness was quite a revelation to me actually. Because high and low (if you think about it) or what we are asking pupils at the piano to do is translate high notes and low notes on the piano in a horizontal axis. Then, to a vertical axis which is high and low ... terminology can be quite confusing. They are taking the words literally.  
(P4)

In referring specifically to the piano, one teacher noted that students struggled to recognise 'when the melody line went up or down', 'direction on the score and on the keyboard' and with 'keyboard geography' (P25).

Another characteristic which might be used to identify dyslexia in a student was 'poor handwriting' (P23), also known as dysgraphia. It is interesting that when dysgraphia was noted by a teacher, the student did not have difficulty with sight-reading (P7). Another teacher noted that the dyslexic student 'could not hold a pencil; it was excruciating for him and he could not write' (P20). The consequence of this was highlighted by another teacher who stated:

The difficulty with writing [dysgraphia] has a big significance when you are doing theory because they cannot pen control enough to write the notation some of the time; so, instantly, you have to adapt. I did ABRSM Practical Musicianship with those students. (P5)

In these cases, the dysgraphia might prove a barrier for the student. Without an assessment, teacher awareness of reasonable adjustments and accommodations and ways to prepare the student for an exam (for example, with an amanuensis), dysgraphia might limit their ability to complete any written assessment.

## **7.6 Visual processing issues**

Some dyslexic students were reported by their teachers to have visual processing difficulties (P13, P23, P24, P25). One teacher recalled a casual conversation between students, 'One [student] asked the other "Don't the notes jump about on the page for you?" (P23).

### **7.6.1 Glare or visual stress from the score**

This might also include being disturbed by 'fluorescent lights' or the 'glare' of a plastic file pocket, as well as 'lines on the notebook' page (P13). The issue of visual stress has been previously discussed at length in this thesis (Chapters 2 and 7). It is recommended that teachers signpost parents and students to specialist ophthalmologists to determine the cause of visual stress.

### **7.6.2 Overlays or coloured paper**

Teachers' beliefs diverged regarding the use of coloured overlays or coloured paper; research regarding covered overlays has been discussed previously in this thesis in Chapter 2 and in Chapter 7.

I've got students who work on pale green or pale blue paper. Another uses coloured lenses for reading music, a pale yellow. It seems that different colours work for different people. (P23)

Several teachers advocated for using coloured lenses or paper, and most took the approach that even if they were aware that the evidence for them was limited, they would encourage the student to use them if they found them helpful. There was a recognition that most students do not want to use things that make them stand out from others or feel different in any way:

It does make a student stand out to use a pink overlay. It's not nice and makes them feel different. They don't want to feel different; they just want to fit in. (P26)

Others found that parents might not support the student's use of overlays:

I have used overlays and seen them work. Sometimes it is like a magic solution. I gave it to the parents to use at home, but they did not use it, which was such a shame. (P26)

Another teacher reported that students generally stopped using the coloured overlays:

I've had very few of them [pupils] with a colour overlay and they want to use it, I don't have an issue at all. But I never suggest it, because the pupils who tried it have

stopped using it after a while. It comes in from the parental and educational side and then it disappears. (P10)

This correlates with the findings from Chapter 6 which suggests that there is a need for more research to confirm the efficacy of coloured paper or overlays, and that there is a variance amongst teachers' perspectives on their use.

## **7.7 Strategies specific to sight-reading**

Sight-reading involves several potentially challenging aspects for dyslexic students, including the development of fluent pitch and rhythm reading. Teachers reported using flashcards and games or apps as overlearning and simplification strategies, reinforcing note recognition and aural skills. Technology was used to modify scores: enlarging, simplifying or highlighting areas of difficulty. Although the use of colour is referred to as an important strategy in the literature (Hubicki & Miles, 1991; Oglethorpe, 2008), teachers appeared to weigh up the efficacy of the use of colour with the potentially negative effects of a chaotic score on dyslexic students. Even if alternative notation strategies were somewhat effective, teachers were made aware of the challenges of the potential stigma and complexities of transition from alternative to standard notation. A consistent theme amongst participants was that sensitivity and adaptability were needed for each individual learner.

### **7.7.1 Modified notation**

Teachers reported enlarging scores, simplifying them and using colour as means of reducing the processing burden or highlighting trouble spots for dyslexic students. Several teachers found that enlarging scores was a useful strategy for students (P4, P5, P9, P10, P22, P23).

Two teachers describe their use of colour annotations:

For dyslexic students, if there are some adjustments on the score, I don't find that they need to struggle that much. I play around with the scores, making bigger gaps between right and left and adding colours, removing things that are not as important, like ledger lines. (P25)

One of my students has a system, I don't prescribe a particular system, but we do talk it through. She has one colour for fingering, one for dynamics, one for notes that

she is getting wrong and another colour for something else. Another student I had highlighted whatever was not working. (P26)

Teachers referred to using software which helped them to modify the score, using apps like *Piascore* (Piascore, 2022) (P9) or *forScore* (forScore, 2022) (P11) to allow them to enlarge the music, annotate it, and highlight it with colours. Software which allows for MusicXML files to be played back to the student was also seen as effective:

I record it with *Flat.io* (Tutteo, 2022) – a web-based notation app – and I send him the web-link and he has it forevermore. It works within Google chrome so it's a really great application as far as I am concerned. You can change note head shapes and colours so it can be used for several different applications. (P12)

Another participant referred to the value of an application playing the sound of the music for the students: 'We have worked with an app and we take a photo of the score, so that the app will play it for him' (P15). One consideration of these strategies is whether they will support the student to learn in an environment where this support is not provided.

### **7.7.2 Concerns about the use of colours**

There were two areas of concern with the use of colours. One participant reported the need for an awareness of synaesthesia and how that might influence the use of colours (P5).

Another participant noted that some students only want to mark the music temporarily:

And with my dyslexic adult student we use erasable highlighters because sometimes it's the anxiety of 'If I mark this, it's not going to go away'... So, then we highlighted the whole line green and we did that every time. And then she stopped missing it and then we stopped having to highlight it. (P22)

This suggests that students might use these highlighted sections to reduce their processing burden and to act as reminders when they are learning a piece, but their use might become redundant once the student no longer needs the reminder.

### **7.7.3 Figurenotes**

Teachers reported that alternative notation systems, particularly those using colour and shape were helpful for dyslexic students (P20, P27). The use of colours and shape might

reduce the processing burden of reading music. Only one participant had experience with Figurenotes (Drake Music Scotland, 2024), an alternative notation system:

The literal nature of the design of Figurenotes as it is colour and shape based, along with the note being as long as it looks, is a fantastic tool for learning music. It also lends itself to creative play, which is ideal for younger pupils. I find that the colours of Figurenotes in stage 3 alone, can help a learner with standard notation identify pitch easier. (P27)

Figurenotes is designed to transition students from Figurenotes notation (Stage 1) to Figurenotes on a staff (Stage 2) and the use of coloured noteheads on a staff (Stage 3) (Drake Music Scotland, 2024). This teacher related their varied experiences of moving students from Figurenotes to standard notation systems using these transitional stages:

I personally haven't noticed any problems transitioning from stage 1 to stage 2 and had a 7-year-old pupil who really took to this very well indeed. I've had less experience with transitioning in my teaching from stage 2 to stage 3 with pupils with dyslexia. One of my dyslexic pupils refused to move and didn't want to attempt stage 3. (P27)

Another teacher was sceptical about modified notation systems, stating:

You get quite a lot of people saying that they have a notation system with dyslexics. And I just smile and think, 'Well, you are still going to have to learn to read music'. My own view is to keep it as near as possible [to standard notation]. (P5)

This suggests that not many teachers are aware of alternative notation systems and that more research should be done on their effectiveness for dyslexic students and to reduce stigma related to their use. It also indicated that teachers should be attuned to the individual preferences of students and ensure that they work with them accordingly.

#### **7.7.4 Games, flashcards and worksheets**

Teachers referred to a variety of methods to establish note recognition with dyslexic students including flashcards, worksheets and apps. Teachers used 'flashcard work to try to

get her to read the notes' (P17) or made individualised flashcards (P2). A dyslexic teacher expressed caution in relation to the use of flashcards, stating that:

One of the issues dyslexic people can have is that [the letters] p, b, d, and q can all look the same depending on how you're feeling so [the notes] e, g, b, d, and f might all look the same on the G clef (P22).

A teacher described using a series of worksheets containing either line or space notes:

Especially with dyslexic students, they don't understand the movement on the staff in comparison with the movement on the keyboard because the movement on the keyboard is so much bigger than the movement on the staff. It doesn't help the time it takes to transfer what they are seeing to where it is on the keyboard, but it reinforces that one note at a time. (P21)

This area of confusion between the spatial understanding of high and low as related to the score and the keyboard is mentioned further in the section on spatial awareness (Section 8.5).

Note-reading applications to build note recognition skills included '*FlashNote Derby* [Bartolomeo, 2019] and *Piano Tutor*' [SmileyApps, 2020] (P2). Flexibility and cost were key factors for teachers, as described by the following participant:

*Music tutor* [JSplashApps, 2021] app is brilliant because they can take it home and do it on their parent's phone. You can limit and adjust ranges, so it is great for all ranges of students. It's really good on a giant iPad and it's also free. (P24)

These points suggest that teachers are keen to support the ongoing development of reading skills within students' individual practice sessions as well as during lessons.

### **7.7.5 Interval recognition**

Interval recognition (P5, P10, P14, P17, P18) was seen as an effective method of counteracting the challenge of identifying each particular note in a score of music. This was reiterated by a piano teacher who noted that finding the first note was the starting point: 'I try and teach using the chord shapes and intervals and I found that my dyslexic pupils have



great success with a melody in one hand and chords in the other' (P10). A piano teacher created individual note-reading using flashcards where 'the top of the card has one note and then underneath is a four-note pattern beginning with that note' (P17). Another piano teacher related how the Kodály method of going from the known to the unknown was useful for systematically building up interval and pattern recognition (P5).

### **7.7.6 Aural interval recognition**

Learning to recognise pitches aurally was seen as an effective method of improving aural test skills:

I was taught creative play and that helps you to learn things a lot easier. Making a game; finding a song the student knows and identifying the interval in it. Most people switch off to aural training or theory, but we will play 'Name this song' and we do that for ages until they can name every song comfortably. Then I change the name of the song to the interval and they've done it. (P24)

A vocal teacher referred to a numeric system of teaching intervals which they felt had been effective in teaching sight-singing to dyslexic students:

I teach by number, so the students learn the intervals relationally. I don't talk about theory too much; it just seems to make more sense to them if I discuss numbers. So, they sing, whichever key it is, on 1-2-3-4-5-6-7-1, not on solfège, but on numbers. (P20)

Caution and sensitivity in using this strategy with students who are dyscalculic might be an important consideration, but the main principle of developing a sense of the relationships between notes in a key remains the same.

### **7.7.7 Specific rhythm strategies**

Strategies for rhythmic difficulties include using the Kodály approach to introduce rhythm symbols, utilising kinaesthetic approaches like Dalcroze to internalise the pulse and rhythm, subdividing the beat or using rhythm syllables to reduce, and games or applications. As one teacher related:

The Kodály approach has been life changing for me, the way it introduces rhythm and teaching. I always use practical things as it has to be hands-on. I've got a box full of pom poms, sticks and boards and stickers and we can put things on lines and spaces. (P25)

Some participants used clapping to establish the pulse (P6, P14) but another participant highlighted the importance of working with the student in order to see which action they preferred (P5). A teacher who was trained in the Dalcroze method described how the visual and kinaesthetic approaches help the student to delineate note durations:

I use tambours in rhythm work - that was from Dalcroze. It was quite a revelation to me actually, when I was tapping a rhythm before. I would tap, say three crotchets and then a three-beat note (Ta-ta-ta-TAAAA). I would have just played tap, tap, tap taaaaaaap and I wasn't showing the duration of the three-beat note. Dalcroze teaching is very strict in that you have to show the full duration of the note when you are tapping a note, you have a certain size circle and when you are tapping a longer note, you have to have a bigger size circle. As you are tapping, that is the beginning of your circle and you go around and show the full duration by making that size of a circle. (P4)

Vocalising the rhythm was advocated by P4:

He plays in a soul band and they often 'talk' the rhythm with the drummer, so he is used to listening for beats like that ... It's versatile because you can apply them to any music you like. Try it every which way: speak the rhythm, tap the rhythm, step the rhythm, then you can play it. (P4)

Teachers recognised that there was some variance in the students' and their own preferences regarding the use of syllables or numbers to sub-divide the beat.

The French rhythm names 'Ta-Ta' 'tiki-tiki', I've used them in the past and found them helpful but then I went on to the Dalcroze way of 'walk, jog, stride'. Some people love a numerical way of counting the beat or subdividing it 1 and 2 and 3. (P4)

What I don't do is use ta-ta and ti-ti's because I struggle with them; I use numbers. I only use words very rarely, only if there are song lyrics, although sometimes they don't always match the rhythm! For triplets against duplets, I will use 'three little frogs' because that's a really nice one. Apart from that I tend not to use words. (P26)

### **Games, books and applications**

Teachers recommended flashcards, games and apps as a means of developing proficiency with rhythm. The *Flip-a-rhythm* (Nelson, 1998) series allows the student to become familiar with a rhythm whilst also introducing new variations (P4).

The other one I use is a book called *Basic Timing for the Pianist* by Allan Small. It is a sequence of four-bar rhythms in five-finger position, starting with crotchets, minims, semibreves and moving on to quavers and dotted notes, that is really helpful for students who have a problem with rhythm (P2)

An app which built the knowledge systematically and uses an interactive and multisensory approach to embedding the information was described by one participant:

The *Rhythm trainer* [GuitarTabs LLC, 2022) app is also brilliant. They have to tap on the phone to the beat and they adore it. It helps them to gain a sense of pulse and it then gives you small progressive sight-reading sections to follow. (P24)

A piano teacher described using Lego to give students a visual picture of note duration: 'I also found with rhythms, playing games with Lego have been really effective' (P22).

Strategies to assist with rhythm difficulties included the use of syllables or numbers, visual depictions of beat duration or rhythmic patterns, vocalising rhythms and utilising flashcards, books and games to build skills cumulatively.

## **7.8 Summary of findings**

- Co-occurring conditions and the spectrum nature of dyslexia create challenges for teachers in identifying the specific cause of a difficulty.

- Although sight-reading is reported to be a key difficulty in the music and dyslexia literature, teachers reported that not all dyslexic students struggled in this area and that there was variance in challenges related to pitch or rhythm reading.
- Slow processing and difficulties with concentration, organisation, working memory and sequencing skills (executive function skills) were primary challenges identified by teachers.
- Teachers reported using multisensory, repetition, cumulative and personalised teaching strategies, adapted from the dyslexia literacy literature. Other general strategies included physical demonstration, simplification of concepts or material and kinaesthetic approaches to learning.
- Low self-esteem was mediated by reducing stress, encouraging the student with praise, considering the pace of the lesson and creating a positive learning environment.
- Coordination issues and spatial awareness created several challenges with translating score to instrument and independence between hands or fingers. Dysgraphia might affect the ability to write efficiently for an exam and might affect exam choice or indicate a need for reasonable adjustments. Strategies included sensitivity to the student and an awareness of the amount of time it may take them to overcome the challenges with coordination.
- Visual stress was reported by teachers. The use of coloured overlays varied amongst teachers. Best practice is to signpost the student to relevant professionals to assess their visual difficulties.
- Depending on the areas of difficulty with sight-reading, teachers utilised a variety of strategies including modifying scores, using colours to highlight specific aspects, alternative notations systems, repetition through the use of games or other materials, and the recognition of note intervals either aurally or on a score of music.

- Rhythm strategies included the use of Dalcroze and Kodály methodologies, visual strategies to denote the duration of notes or rhythms, rhythmic syllables or vocalisation and embodiment of the pulse or rhythm.

## **7.9 Conclusion**

Findings from teacher interviews indicate that teachers tended to trial a variety of strategies until finding effective solutions, respecting that each student was a unique individual. The need for sensitivity to the student and an awareness of their past educational experiences was key to helping reduce stress or a sense of failure in the student's learning experiences. Teachers reported primary challenges dealing with students' processing and executive function skills which reflect previous dyslexia research literature. Challenges with poor executive function skills, disorganisation, poor concentration levels, reduced cognitive load and poor working memory were described by teachers.

Teachers recognised student challenges with low self-esteem and confidence. A small number of teachers utilised teaching strategies originally designed to help with literacy issues (Phillips & Kelly, 2016) but applied in a music teaching setting. Many of the strategies reported involved breaking concepts up into small steps, slowing down and simplifying activities or scores of music. Teachers described the importance of developing an encouraging, supportive atmosphere where challenging activities might be included on a carefully measured basis. Specific challenges in the areas of sight-reading, visual stress, coordination and sequencing were noted by teachers with correlating strategies.

## **REFLECTIVE STATEMENT 4: POWER AND KNOWLEDGE DYNAMICS**

### ***RS4.1 Resisting control and valuing unpredictability***

This transition came from my perspective of desiring the student's progress in becoming an active learner but needing to acknowledge the challenges of resisting my impulse to control and valuing unpredictability in lessons. As my student experiences had been rooted in a master-apprentice tradition where the teacher directs the lesson and is in control, I became aware of how transferring this control to the student caused me to feel discomfort even as I became aware of the benefits to the student. Kemmis (2006) notes that practitioner-researchers generally aim to 'improve existing techniques rather than question them in any critical manner' and 'to enhance the efficiency of practices rather than evaluate them in terms of their consequences' in learning environments (pp. 460-461). Teachers' attitudes also affect this process, as Southcott and de Bruin (2022) note, stating that 'the need to be right and in charge drives many teachers' and that they expect students not to think for themselves but to 'just comply with the unspoken pattern' (p. 3). In my analysis of lessons, I could sense that I felt justified in approaching lessons based on my past student and teaching experiences.

Drawing again from Bronfenbrenner and Morris' (2006) bioecological model:

When a proximal process involves interaction with another person, the power of the bioecological model is substantially enhanced by including in the research design a measure of the other person's focus of attention on the particular aspects of the behavior of the subject that are presumed, on theoretical and empirical grounds, to be most closely related to the developmental outcome. (p. 813)

This related to my responsiveness in transferring power from myself to the student, and considering factors that might affect both my development and that of the students, with the 'research design' being equated to our one-to-one lesson context. These proximal processes are bi-directional, according to Bronfenbrenner and Morris (2006, p. 800). From a teaching position of sitting in close proximity to the student prior to the Covid-19 pandemic and subsequent lockdown, I recognised the benefit of having more physical space between us and also offering space for them to think or act with minimal verbal instructions in the

lesson, thereby exploring a lessening of my control and influence. Questions that arose for me thus included: 'Who takes responsibility for the learning? What can I learn from the student when I let them teach me?' I recognise that there is a tension between wanting to support the student and trying to invite them to use the space to explore and to try their own strategies for learning. As Liddicoat (2022) states:

In preparing to engage with diversity, teachers need to understand themselves in relation to that diversity and to adopt a critical perspective on their own situatedness, on the situatedness of their learners and on the situatedness of the curriculum they teach and pedagogies they use. (p. 189)

At times, I recognised a tone of defensiveness in my voice when I could see areas that needed to be improved, but the student had other ideas for the lesson. My positionality of having experienced master-apprentice teaching in my own learning caused a sense of striving for 'results' in my teaching, and challenges in letting go of this directed focus in my teaching. My other position as a researcher meant that I felt compelled to document their learning and to try various strategies. These attitudes could impede the exploration and discovery needed for them to engage in deeper learning about music which might need to include times of flexibility and adaptation. Once I took a critical perspective of my own situatedness, I began to see that greater openness and freedom allowed other aspects which were of importance to emerge, for example to learn about the student, their experiences and how I might understand them better.

Dyslexic students have specific vulnerabilities to stress, based on their educational experiences, peers and family support (Alexander-Passe, 2008). Kershner (2021) suggests a connection between dyslexia, learning and stress, noting that excessive stress may have an effect on reducing both neuroplasticity and attentional control. I recognised that school demands or activities needing a high level of concentration depleted my dyslexic students, sometimes resulting in a reduced willingness to participate in certain tasks. I also recognised that our activities during the lesson might be a source of stress for them, and unpicking this could be a substantial demand on my reserves of patience and energy.

Students with learning disabilities may struggle with self-regulation and it is believed that this stems from the student's view of themselves (Goldfus, 2012). Essentially, they must first believe that they can achieve and have confidence in their ability to learn, and I was conscious of needing to convey this in my feedback to the student. I acknowledged the importance of affirming effort and focusing on what was done well before speaking to them about areas needing correction. By giving them control over lesson activities and repertoire, they seemed to grow in confidence in their abilities to learn. By giving them opportunities to share their achievements in recitals or by recording a mastered piece for parents, I desired to see an increase in their self-belief. My hope was that by choosing repertoire and activities based on recruiting their interest, this would serve to motivate them and enhance their learning. By acting in ways that support students' autonomy and in developing more sensitivity to their stress levels, the outcome of this transition appeared to show an increase in their engagement and willingness to utilise metacognitive strategies.

## *RS4.2 Metacognition*

A critical incident occurred during a lesson with Alex. This occurred two months after a national lockdown had been declared in the UK during the Covid-19 pandemic. I was still getting to grips with recording lessons via Zoom and this clip is recorded in speaker mode, rather than a side-by-side mode which I later used.

### **RS4.2.1 Metacognition: Letting the student lead**

I began by asking Alex to set a goal. In doing this, I wanted to give him autonomy in the choice and control over this decision and additionally to observe what he believed was achievable. Alex stated 'I would like to learn a piece ... but by myself' (Video excerpts are not available to readers due to GDPR and participant confidentiality). I felt quite surprised and my first response was positive. However, instead of using this opportunity to observe how he would proceed, I instead suggested several strategies: clapping the rhythm, demonstrating the piece and proposing that he listen to recordings. For me, the most meaningful moment arose when I reviewed the video and began to question why I felt I had to have that type of control over the student's learning process, and why I was somewhat resistant to their request to learn it by themselves. This might be due to the fact that I felt I was doing my duty as his teacher in guiding and supporting him. Alternatively, this could be



related to a reluctance to relinquish control, although this would be contrary to my values of wanting to learn from the student and to promote their metacognition. Having experienced this incident, I now question if I was also contributing to a sense of helplessness, or disempowerment, that some dyslexic students may face when they are treated as if they are not capable of learning on their own. Kerr (2001) notes that whilst a dyslexia diagnosis may be beneficial for funding and education 'the diagnosis may also act as a profoundly maladaptive attribution, inducing learned helplessness in student and teacher alike' (p. 84).

Equally, my reaction might have come from my desire for him to succeed and to have 'quick wins' so that he would not become discouraged. I wonder if I should have praised him simply for wanting to have a go on his own, as that demonstrated motivation and self-confidence on his part, regardless of the outcome. As these are strengths he has demonstrated in past tasks, this might also reinforce these positive traits and encourage future initiative-taking. From this experience, I learned to be more careful when students assert themselves with a desire to take ownership of their own learning and remind myself to step back when appropriate. This knowledge is useful to me as a practitioner because I want to see my students move from being passive learners to active ones. It is positive that he expresses self-efficacy in instances such as this in our learning journey, and I want to build on that confidence and his desire to be involved, rather than hold him back in any way. As a next step, I asked Alex what his approach might be in learning the piece on his own and encouraged him to verbalise the process of doing this (Video excerpts are not available to readers due to GDPR and participant confidentiality). His suggested strategy was to write some of the note names on the music. Even though he experienced some frustration, I held back from making suggestions and praised him as he moved forward in his own way to play a challenging section of 'Minuet in C' hands together. Although this was uncomfortable for me, I interpreted this as progress for us both, with implications for resisting control in my lessons with other students, not just dyslexic students. For the student, this indicated that he had taken the initiative by articulating his next steps. My next step was to consider what the student might need at this stage in order to feel supported in the next section of the piece.

## **RS4.2.2 Metacognitive development**

Working with students who had different dispositions meant that I had to have a variety of approaches as some students were not as comfortable as others in verbalising their opinions and feelings. According to Craft (2017), one of the root Latin words for education is *educere* which means ‘to lead out’ (p. 9). I adopted this approach in my teaching as I prefer to find out what is within the student and bring that out than try to train the student into a mould, particularly in light of the diverse ways of learning which might be expressed by a student with dyslexia. In this lesson (Video excerpts are not available to readers due to GDPR and participant confidentiality), I began by offering Ben autonomy in choosing if he would like to warm up with a well-known piece or some improvisation. He chose to warm up with ‘Scary Stuff’ which he enjoyed playing and was proud of playing as it was an ABRSM Grade Three level piece.

Nicolson and Fawcett (2019) refer to difficulties with procedural learning and suggest that individuals with dyslexia are limited in their ability to build the neural wiring necessary to combine procedural and declarative learning systems; they call this the ‘delayed neural commitment’ framework. The result is that building automaticity in skills may take longer than with non-dyslexic children, and that sub-skills must be built cumulatively so that the foundation of learning is secure. This is similar to Morrow (2023) who suggests that the traditional methods of teaching music do not allow for skills to be presented and reinforced in such a way as to be sufficiently effective for dyslexic students to build the necessary neural wiring for thorough comprehension. However, Gabay (2021) suggests that ‘shifting the load from procedural to declarative processing can enable intact learning in dyslexia’ and that interventions ‘to help people with dyslexia should focus on encouraging declarative memory engagement’ as a means of compensating for the procedural learning difficulties (p. 9).

Though I worked on skills like note recognition and rhythm reading (declarative learning) separately to try to build this automaticity, there were still challenges connecting the note on the score to the keyboard, for example, recognising a G note on the stave to finding the correct G on the keyboard (procedural learning). As a result, Ben would often begin a piece

by sight-reading as much as he could and then commit as much as possible to his excellent aural memory. At times in the learning process, however, there were little bottlenecks to his working memory which could usually be sorted with scaffolded reminders, such as simply saying 'Thumb to E-flat' until he did not need the reminder. I tried to allow space for Ben to think through and to remember these on his own at first, and (at 2:50) I also encouraged him to find his place in the score and take as many cues as possible from the score. When a student with dyslexia recognises that they need help, Goldfus (2012) describes this as 'metacognitive development' and states that 'it acknowledges the fact that the inability to do something is not shameful, but part of the learning process' and demonstrates 'the ability to self-regulate learning' (p. 61). This signified growth in our rapport and dialogue and emphasised the importance of my ability to self-regulate as a teacher by allowing the student space and time to process their own ways of learning.

#### **RS4.2.3 Metacognitive development: Asking the student how they learn**

Later in 2020, I offered a number of strategies to support Alex learning the piece, 'Rudolph'; for example, making short videos of sections (Video excerpts are not available to readers due to GDPR and participant confidentiality) and simplifying the score. Even though he persevered to play through the piece, at 1:04 in this video (Video excerpts are not available to readers due to GDPR and participant confidentiality) the result of intense concentration shows him slumping his head forward on the keys. After acknowledging his effort, I asked Alex what would help him to learn this piece (1:14) and his suggestion is 'practising'. We negotiate the number of times he will rehearse it during practice and he suggests making a list where he ticks off each time he has played. This preference for a visual practice reminder seems to be helpful for him as a means of externalising the organisation and motivation for practice. Here he has taken ownership for the solution to learning (practising), the procedure (repetitions of practice) and for the way in which he will keep account for his learning (by a visual practice account). The next step was monitoring and encouraging him to consider if this method achieved the goal and if not, to consider what could we change so that he might be able to master the piece. I felt confident that he would attempt to practise, although he might encounter some challenges, and would likely be able to achieve his goal.

#### **RS4.2.4 Physical proximity and balance of verbal/non-verbal communication**

In some of the videos, I am not in the camera frame due to social distancing regulations from the Covid-19 pandemic. The lockdown brought about new ways of working and both the student and I had to adapt. As can be seen in the introductory videos to the students (Reflective Statement 2) and in this lesson (Video excerpts are not available to readers due to GDPR and participant confidentiality) from 2019, prior to the pandemic, I sat or stood near the student and was able to point to keys or places in the music as a form of guidance. Close physical proximity was limited first by the Covid-19 lockdown and then through social distancing restrictions. When lessons began on Zoom, I instinctively felt that my students needed to see me and not be overwhelmed with multiple camera angles as some teachers were using. There were challenges, however, because I could not point to a place on the keyboard or physically demonstrate as easily, and more verbal instructions had to be used. We tried to overcome these challenges from Zoom by making short videos which were shared on a WhatsApp channel with their parents.

Over time I could see the benefit for the student as they relied more on their problem-solving skills and less on me as their teacher in the immediate moment. In later lessons, even after social distancing, I sat or stood several steps away from the student. I also tried to reduce the number of verbal instructions I was giving as I could see that more time was needed to process instructions. In this lesson (Video excerpts are not available to readers due to GDPR and participant confidentiality) Ben is sight-reading his part of the 'Capriccio' duet. I have given him the physical and thinking space to accomplish this, with only a reminder about the B-flat from the key signature and confirmation about his starting place on the keyboard. He took a while to identify the starting note but he immediately corrects his initial answer as soon as he realises it is wrong. After that, he does quite well with following the shape of the music even when it leads to a chord which is correct but does not sound right to him, because it lacks the harmonisation of the left hand. Later in the same lesson (Video excerpts are not available to readers due to GDPR and participant confidentiality), he chose to try to play hands together and made minimal errors and required reassurance from me rather than any correction. I believe that the allowance of physical space and less verbal communication supported the student's metacognitive development, in addition to scaffolded reminders which enabled him to reach this point.

### **RS4.3 Factors affecting motivation**

There are a number of factors which affect students' motivation and resilience, but in this section, I will focus on the students' stress levels as a vulnerability factor and autonomy in repertoire choice and achievement as promotive factors. At times, school pressures meant concentration and attentional levels were low and I tried to be sensitive to that in our lessons.

#### ***RS4.3.1 Student stress and teacher flexibility***

In this lesson (Video excerpts are not available to readers due to GDPR and participant confidentiality), Alex was very clear that he did not want to do a music theory game or drumming rhythms, even though they were activities he seemingly enjoyed in the past. When I asked him what he would like to do, he said (at 0:50) 'Just mess around and make some cool tunes' and proceeded to improvise with some chords. He mentioned three tests at school and recovering from illness and clearly he needed a non-demanding activity which the improvisation provided. I was glad that he felt he could be honest with me, and I felt that this openness also demonstrated self-awareness and a form of behavioural self-monitoring. Research findings (Alkhadim, 2022) indicate that dyslexic students experience a physiological state of stress when faced with situations in which they are judged by normative criteria as opposed to non-normative criteria, affecting their cognition and emotions. If Alex made the choice to work on theory, drum to a rhythm pattern or to sight-read a piece of music, he would need to act according to the standards of knowledge and skill needed for those activities. However, with improvisation, I speculate that he was choosing an activity which was not necessarily subject to those standards and which released him from a sense of being measured or compared. It was unusual for Alex to choose improvisation and I often found myself encouraging him to 'give it a try' during our lessons. Improvisation may have been giving him a creative release from negative or anxious emotions, helping him to relax. From this experience, I recognised the importance of laying aside my lesson plans and following the student's lead. I also began to include other lower pressure activities in our bank of activities. Music theory Wrap-ups<sup>25</sup> which were recommended by a teacher participant, were an example of this and enabled the student to

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<sup>25</sup> <https://learningwrapups.com/category/music-theory>

learn at their own pace. I also encouraged the students to reflect on their achievements and to revisit pieces which had given them a sense of accomplishment.

### ***RS4.3.2 Student choice in repertoire***

Student choice of repertoire was another important motivational factor. I used repertoire selection as a point of dialogue with the student, wanting to find a balance between expanding their musical interests and learning about the students and their preferences. 'Learning music through diverse repertoire may open self-introspection as well as awareness of others in the world' according to Rotjan (2021, p. 29). Several factors had to be considered when choosing repertoire, for example the difficulty level and the aim in learning the piece. At times, it was uncomfortable to resist the urge to control the students' repertoire choices and to easily accept their use of the repertoire. Some pieces were not learned to a standard for a recital but were played for enjoyment. At times, it was difficult for me to resist the urge to perfect these pieces, which would indicate being in control of the process, but seeing the students' obvious sense of pride and accomplishment with learning these pieces made it easier for me to accept the imperfections.

Alex had a keen interest in video games and in one series of games, Black Flag, a number of sea shanties were played. Students were encouraged to think creatively about their pieces, and Alex chose to put several video game songs into a 'Pirate's Metaverse Medley' (Video excerpts are not available to readers due to GDPR and participant confidentiality) for our summer 2022 recital. We made this video during a lesson to help him with practice at home. Maintaining a steady pulse was always a challenge, and this is sometimes hampered by the time it takes him to find notes or chords, but the piece does move forward and he was very proud of it. The element of creativity in bringing the pieces together seemed to motivate him.

Examples of achievements include an online recital during lockdown where Ben played 'A Shave and a Haircut' (Video excerpts are not available to readers due to GDPR and participant confidentiality) and proudly beams at the camera at the end of the piece. Ben chose to play 'Enemy' (Video excerpts are not available to readers due to GDPR and participant confidentiality) by Imagine Dragons and JID, and coped very well with the large chords and greater amount of movement on the keyboard, something which was fairly new

and challenging for him. I believe the amount of effort he put into practising the piece correlated with his choice to play it and subsequently, this motivated him further. Alex enjoyed James Bond movies and was pleased to be able to play the melody with chords in the piece 'Skyfall' (Video excerpts are not available to readers due to GDPR and participant confidentiality). He found the chords being shown in a pattern on the keyboard useful to his ability to bring them together with the melody. Being able to share these achievements with parents and friends and to perform in front of peers enabled a move on the 'continuum of self-assessment' to 'involvement' and 'confidence' leading to more active learning (Goldfus, 2012, p. 62). As I learned to release control, which was not always comfortable, I learned that I would see an impact from this in my students, increasing their confidence and motivation.

#### ***RS4.3.3 The use of technology***

Other factors influencing motivation include the modality of strategies used. Harrar et al. (2014) found that comparing dyslexic and control groups of participants, 'results demonstrate that dyslexics distribute attention asymmetrically between auditory and visual modalities, more so than controls; it is difficult for dyslexics to disengage their attention from visual stimuli and shift it to auditory stimuli' (p. 533). Knoop-van Campen et al. (2018) found that children with dyslexia spent more time on multimedia learning than control users overall and would benefit from more audio support to compensate for slow reading speeds. Both of my students enjoyed video games and technology, and I integrated as much as I could into our lessons in a way that I felt would bring about deeper learner engagement and goals. I chose activities that did not include a great deal of text and I tried to give simple instructions or gentle reminders during the activity if they were struggling. It was different to the way that I taught in past lessons and had been taught as a student, but as I saw the students engage and enjoy the content, I could see how it was engaging their interest.

In this example, (Video excerpts are not available to readers due to GDPR and participant confidentiality), Alex identifies the majority of treble clef note names correctly. This program<sup>26</sup> is web-based and means that parents do not need to download an application on their computer or phones; however, it does have a timer element which I was aware might

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<sup>26</sup> <https://www.richmanmusicschool.com/products/name-that-note>

be a potential problem for some students. I asked Alex about that in this clip (Video excerpts are not available to readers due to GDPR and participant confidentiality) but he stated (at 1:22) 'I think it's better because it makes you make the decision quicker'. I am aware that might not always be the case with other students, and I have other note recognition games which do not contain the element of time. We moved on to a game: Chasing Chase: A Treble Clef Mystery, which utilised his strengths in problem solving, where Alex had to choose the correct word or phrase to match a sequence of letters on the staff (Video excerpts are not available to readers due to GDPR and participant confidentiality). By building from simple note recognition to reading patterns of notes, I hoped to see an improvement in sight-reading. Ben reported that he enjoyed playing this Mandalorian note recognition game (Video excerpts are not available to readers due to GDPR and participant confidentiality), but I recorded in my reflective journal that I felt it was too easy for him and needed to have more of a component of challenge. Responses seemed to vary at times and concepts which appeared to have been grasped sometimes needed a great deal more reinforcement. This was frustrating for me as a teacher as I struggled to discern whether this was due to my teaching methods or something I was missing; I also wondered if it related to the students' tiredness and depletion of mental energy. I felt it did help to have some activities which were low-demand and allowed the student to have feelings of success and accomplishment. I dealt with this by checking responses over time and if they were persistently incorrect in a certain area, then I began to explore other methods or reasons why this might be.

Reviewing and explaining time signatures seemed to be an on-going issue, as can be seen in this game, Original Time Signature: Among Us, which we played at the end of a lesson (Video excerpts are not available to readers due to GDPR and participant confidentiality). This caused me to question the most effective way of explaining the foundation of metre and subdivision of beats. According to Morrow (2023), dyslexic students need a visual example of how a whole note is divided into units within a bar. I used the rhythm pyramid idea with both students, but they continued to struggle with the concept. Hammel et al. (2016) suggest introducing macrobeats, microbeats and rhythm through chants and music with movement, allowing the student to internalise these concepts before they see them on a score, and playing a number of games where the student and teacher swap parts. I felt that my students were able to recognise and subdivide beats, but struggled with the



conceptual element of time signatures. I recognised that part of my role was to give students the vocabulary and framework for understanding what they already felt in the metre and rhythm. But, Larsen (2019) states ‘it is always worth asking the question whether or not the things “learned ” in the first place were worth learning’ (p. 1). I observed that the Figurenotes adaptive notation does not include time signatures, but instead places the music within a grid. This provides the same information through a visual representation, rather than a more abstract numerical representation of the time signature.

I chose to introduce Music Mania Mats<sup>27</sup> (Video excerpts are not available to readers due to GDPR and participant confidentiality) during our lessons, which are a series of worksheets with no more than five or six music theory questions. These were useful as I would ask the student to complete whatever they could and we would work together on anything they did not understand. This allowed me to observe what they recalled from previous lessons and areas where we needed to reinforce learning. By addressing these questions in this ‘bite-size’ way, the students progressed as we continued to reinforce the information about time signatures. It was sometimes challenging to determine which areas needed further reinforcement and which areas were secure, as responses might be variable depending on their emotional and behavioural state in the lesson. Although I found this frustrating, over time if I managed to obtain correct answers around 80% of the time then the other 20% likely accounted for days when fatigue and depletion were evident. Learning is complex, so I could only infer if the instruction was successful by looking at a variety of components over time.

#### **RS4.4 Conclusion**

In conclusion, this reflective statement has discussed factors relating to metacognition and motivation and reflects transitions in my teaching approach toward reducing control and creating more space for students to actively participate in their learning. With the aim of promoting their resilience by encouraging them and highlighting their achievements, I sought to develop their self-belief and confidence in learning and performing music. Alex’s parents gave me a card which indicated that they had seen growth in that area:

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<sup>27</sup> <https://www.piano-together.com/blog>



**Figure RS4.1 Card from Alex's parents**

And Ben's parents passed on a promising report from his school music teacher:

Ben has impressed me with the speed at which he picks up what we're doing in lessons – I understand he has piano tuition outside of school – and that is making a huge difference to the rate of progress he is making.

These outside reports were confirmations to me of what I felt I was seeing in the lessons.

Returning again to Bronfenbrenner and Morris' (2006) bioecological model, the microsystem is described as:

... a pattern of activities, social roles, and interpersonal relations experienced by the developing person in a given face-to-face setting with particular physical, social, and symbolic features that invite, permit, or inhibit, engagement in sustained, progressively more complex interaction with, and activity in, the immediate environment (p. 814)

The students were gaining confidence in their music abilities, increasing in motivation and in finding their own methods for learning. We became quite deeply engaged during our lessons, so I had to be very conscious about remembering to stop what we were doing near the end so that the student had time to think through the goals for the following week. This was one of the most challenging aspects. I felt that having them verbalise their goals was a

more efficient way of reinforcing the information than having them write the information in a notebook.

I tried to remedy this by having them set the goals when we finished, for example a scale or section of a piece, and then I added it to the shared WhatsApp chat later. This meant that parents were also aware of the students' goals that week. Sometimes I asked them to send me a video through the week to show me their progress or for the student to ask questions to check their understanding. Regarding the use of technology, I was aware of the limitations of using smartphones during lessons and had to consider safeguarding and practical issues very carefully. I only used this method with parental agreement. Smartphones are a potential source of distraction in the lesson setting and may affect attentional control (Ward et al., 2017).

Though there were times of student stress when initial plans had to be altered, allowing the students this flexibility appeared to offer the breathing space they needed to let their physiological stress levels recover. By being sensitive and responsive to these clues, I sought to adapt and to put the student in control of the order of the lesson, and the intensity or challenge level of many of the lesson activities. The development and growth in this area of releasing control and allowing for space, both physical and mental, enabled growth in my rapport with the students, the students' engagement with lessons and the development of their metacognitive skills.

## **REFLECTIVE STATEMENT 5: JOURNEY TO TACIT KNOWLEDGE**

### ***RS5.1 Introduction***

Polanyi (1966) described tacit knowledge in the following way: 'we know more than we can tell' (p. 4); therefore, this type of knowledge can be difficult to verbalise. Drawing again on Bronfenbrenner and Morris (2006), who hold that proximal processes (or the interactions between teacher and student) are the 'engines of development' and are 'bidirectional', repeated interactions lead to development of both the teacher and the student (p. 798). Drawing on an example of tacit knowledge from my interviews with teachers and students (Chapters 6-8, 10), a conservatoire-based teacher (P11) described the inadequacy of literacy-based strategies provided to a student by a learning support tutor:

... he'd been given some kind of table of different things he could do, when he was learning from the music, different kinds of learning techniques like to say the words, speak the rhythm, say the word with the rhythm, putting it together. He said that he hadn't found it that helpful ... Partly because it involves a lot of looking at notation still ... In fact, he does say that the phonetics are helpful and it breaks it down because obviously it's one symbol to one sound system. But my experience with him learning phonetics is we get this slightly robotic sound by sound approach. (P11)

In this case, the goal of achieving a fluent musical performance was partially hampered by the ineffectiveness of the strategies applied and partly due to the student's challenges with reading notation. Fortunately, in this case, the teacher adopted flexible approaches based on the embodiment of sound with gestures, aural patterns, and encouraging memorisation of the music as quickly as possible. The student described by this teacher was interviewed for this research and offered his perspective to the teacher's approach:

I had extra theory at [institution name] ... but they didn't understand how dyslexia works and how to make links to the material. I felt I would forget the key, I didn't want to, I would try, but it just wouldn't stick at all. That's why [name of teacher] is great, he plays silly imaginative games with pictures which link things and that really helps me. With theory I didn't have anything to link to it. I have a good imagination,

pictures, I can make links myself, but [teacher name] is fantastic at making links and enabled me to be creative with the links that I'm making to remember. (Ned)

This example illustrates the challenges that arise as learning support tutors may understand dyslexia, but lack an understanding of appropriate music learning strategies, whilst some music teachers might lack knowledge of dyslexia and how to tailor learning in a responsive way to the individual student. However, the teacher's tacit knowledge of music and their reciprocal interactions with the student guided their approach, benefitting the student.

Just as someone may use a physical map to determine the landmarks leading to their destination, I consulted literature and the Universal Design for Learning (CAST, 2018) as a framework to guide lesson planning, but my interactions with students and their parents also led to the development of tacit knowledge. In describing how this tacit knowledge can be 'brought to the surface', Mitchell et al. (2022) suggest that this occurs through 'reflections of the subject on their own practice by explaining what they do and why they do it' (p. 1668) and that tacit knowledge is acquired through 'feedback and the correction of self, or by others' in a 'process of trial and error' (p. 1670). These reciprocal processes with the student led to my development of tacit knowledge which informed future lesson planning and benefitted the work with my students.

### *RS5.2 Analysis of strategies from the literature on music and dyslexia*

From the literature (Chapter 2), I identified general evidence-based strategies for teaching dyslexic students and collated various music-specific learning strategies for dyslexic students (see Chapter 2, Table 2.1). The general strategies have been developed from the Orton-Gillingham (Phillips & Kelly, 2016) approach to teaching literacy and applied to the music teaching context.

In Chapter 2, Figure 2.1 provides a more detailed overview of the Universal Design for Learning framework with checklists to guide students through a process of accessing information, building upon and internalising that knowledge (CAST, 2018). The use of the framework aids in flexible strategy selection for lesson planning; observations from lessons fed back into the checklist to consider ways of differentiating instruction as well as accounting for students' self-regulatory and motivational needs. Figure 2.2 provides a list of

questions to guide the teacher in lesson planning. In the sections that follow, I connect the strategies in Table 2.1 (pages 49-51) with the checkpoints from the UDL framework (Figure 2.1, page 72) to give evidence of using these guidelines in my teaching. A more accessible version of this table is available in a text-only format in the Appendices of this thesis (see Appendix J).

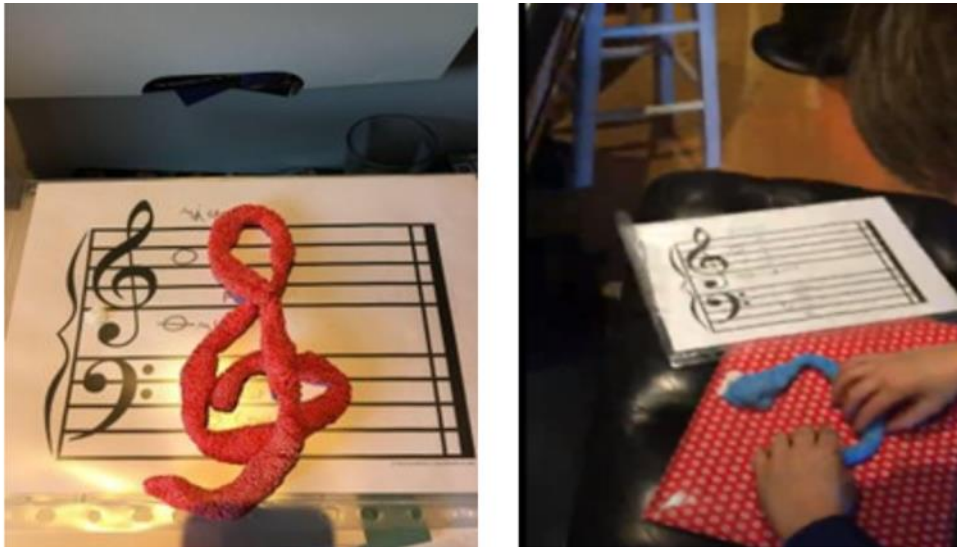
### **RS5.3.1 Providing options for perceiving the information, language and symbols**

In looking for ways to engage and sustain my piano students' (Ben and Alex) interest (UDL Checkpoint 7.1) my focus initially was to provide some simple pieces which they could easily master without notation. I chose *Piano Adventures Accelerated Level One* book (Faber & Faber, 1998) for several reasons: a systematic introduction to the keyboard and notation, enlarged well-spaced notation, as advocated by Flach et al. (2016), as well as tuneful melodies with easily identifiable patterns and harmonious duet parts (UDL Checkpoint 1.1). Students had autonomy in the choice of pieces from the book (UDL Checkpoint 7.1). Pieces learned at an early stage were learned aurally (UDL Checkpoint 1.3), following teacher demonstration and imitation, as advocated by Oglethorpe (2008).

I introduced the keyboard to students through a form of discovery learning whereby the students were encouraged to identify patterns and to explore the registers of the piano. Alfieri et al. (2010) recognises benefits of discovery learning, as students 'interact with materials, manipulate variables, explore phenomena, and attempt to apply principles' and they begin to 'notice patterns, discover underlying causalities, and learn in ways that are seemingly more robust' (p. 1).

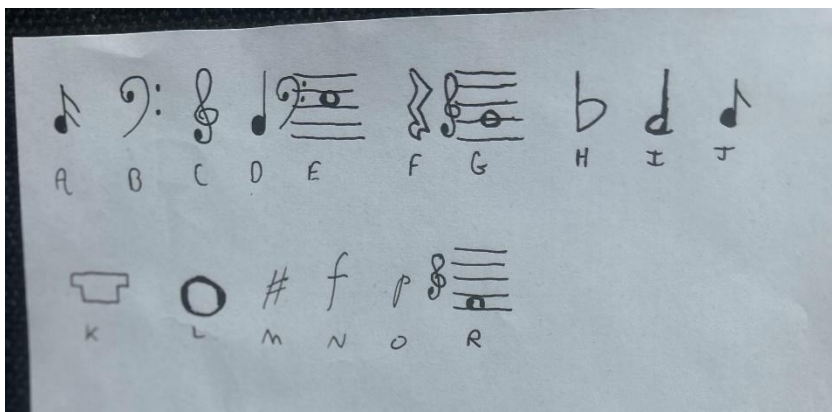
The stave and notation were introduced through explicit instruction (UDL Checkpoint 2.1) and through the use of mnemonic devices which students were encouraged to devise themselves (UDL Checkpoint 3.4). McCleskey et al. (2017) notes that 'teachers use explicit instruction when students are learning new material and complex concepts and skills' (p. 23). The Rose report (2009) advocated multisensory teaching as best practice for dyslexic students. Music is a multisensory activity by nature and uses aural, visual and kinaesthetic senses to engage the learner (Phillips & Kelly, 2016). The use of physical manipulative aids is a suggested multisensory means of reinforcing memory (Byrne et al., 2023). I invited

students to use pearl clay (leaves no residue on hands or surface) to re-create the treble and bass clefs (UDL Checkpoint 5.1). I recognise that this would have to be used with caution depending on the sensory sensitivities of individual students (See Figure RS5.2) for an example).



**Figure RS5.2 Multisensory activity to form treble and bass clefs from clay**

Students' knowledge of music symbols was reinforced through tracing, drawing and games (UDL Checkpoint 3.4). The students used music symbols and notes on a staff to create a code (See Figure RS5.3) which they would then use to write short messages which I decoded (UDL Checkpoint 2.5). I used the Whiteboard function on Zoom to ask them to practise writing symbols (UDL Checkpoint 5.1) when teaching online and a physical whiteboard in face-to-face settings.



**Figure RS5.3 Music symbols code, created by Ben (2022-5-19)**

The learning was reinforced by overlearning techniques, as advocated by dyslexia educational literature (Phillips & Kelly, 2016), through simple games, for example, naming, locating and playing all of the C notes on the keyboard, locating and playing notes in short sequences, recognising notes on the stave through flashcards and games (UDL Checkpoints 2.2; 2.5).

I trialled notation based on finger numbers, note name tablature and colour representations of pitch (UDL Checkpoints 1.2; 2.3). I modified scores to reduce distractions or to simplify them, as advocated by multiple sources and the use of recordings, as advocated by Nelson and Hourigan (2016). Through a process of elimination, I observed that Alex preferred standard notation with reminders, such as note names written in or sharp notes circled, whilst Ben preferred to learn pieces aurally with scaffolded reminders although he would consult the score until the piece was memorised. Both students used scores involving melody lines and chordal accompaniment, with Alex using a graphic representation of chords on a keyboard diagram and Ben using simple chord tablature, as chord theory developed (UDL Checkpoints 1.1; 2.3). In Reflective Statement 6, I note how the use of an alternative notation system (See Section RS 6.3.2) was effective for Alex, although he had concerns that this might prevent him from progressing with reading standard notation in the future.

I introduced scales through aural patterns, as advocated by Oglethorpe (2008), and then offered a variety of options to help with recall: using note names of the scale pattern, graphic representations of the scale on a keyboard, kinaesthetic pattern on the keyboard and standard notation (UDL Checkpoint 2.3). Alex preferred a graphic representation of scales<sup>28</sup>, whilst Ben chose to recall scales through aural memorisation and kinaesthetic pattern. Neither student was interested in modifying scores using colour, although I invited them to do so on a number of occasions.

From my observations, I could see that Ben had excellent aural repetition, was able to maintain a steady pulse, needed slower pacing for verbal directions and coped well with duets when he felt confident in his ability to place his part by himself. My reflections of

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<sup>28</sup> <https://www.hoffmanacademy.com/blog/c-major-scale-on-piano/>

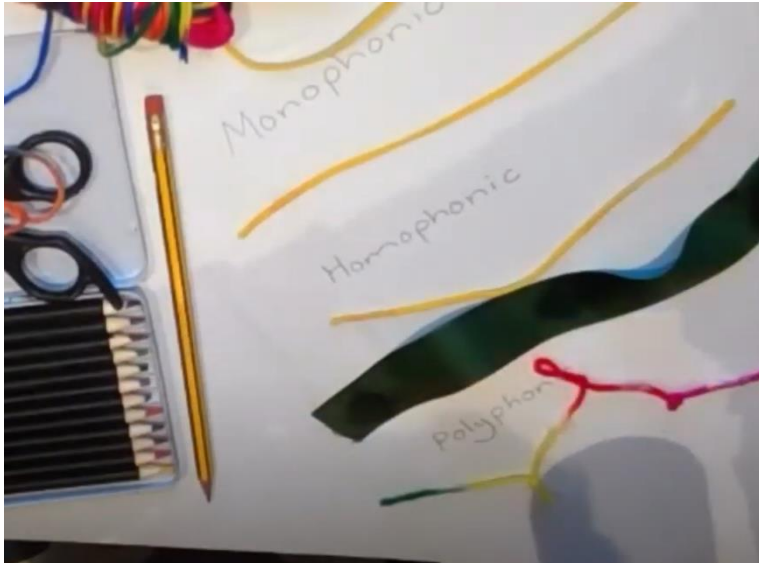


Alex's early lessons were that he needed more time to establish pulse and rhythm but demonstrated persistence in learning. I used a variety of techniques, isolating the rhythm, as advocated by Nelson and Hourigan (2016), and practising by demonstration and imitation away from the piano, as advocated by Oglethorpe (2008). Their pride in being able to play pieces was an important way to sustain their motivation and often parents were treated to mini recitals at the end of lessons as well as non-compulsory group recitals at the end of term (UDL Checkpoint 7.1).

### **RS5.3.2 Providing options for comprehension**

As students mastered the basic knowledge, they set goals for themselves (UDL Checkpoint 6.1). Choosing new pieces enabled them to have the opportunity to connect what they learned previously and apply it in a new setting (UDL Checkpoint 3.1). I encouraged them to verbalise their thinking in approaching a new piece, which also enabled me to observe their level of understanding, and I used prompts or questions to remind them of elements they might have overlooked (UDL Checkpoint 3.2). Sometimes this involved prompting or returning to key concepts and linking current challenges with what had been learned in the past (UDL Checkpoint 3.4). In this video example (Video excerpts are not available to readers due to GDPR and participant confidentiality), Ben approaches a fairly new piece and finds his starting point. He had written a note to himself at the top of the page 'RH third finger to F' and 'LH thumb to A and little finger to D'. Throughout the video clip, I asked him various questions about how he remembered to start the piece, about the movement of notes on the score and about articulation. The answers to these questions indicated areas needing further reinforcement. Upon further reflection, I can see that asking these questions and discussing the answers together was also a means of reinforcing the learning during the lesson.

Ben demonstrated his knowledge of the concept of 'texture' in preparation for his GCSE music course as demonstrated in this time lapse video (Video excerpts are not available to readers due to GDPR and participant confidentiality) and in Figure RS5.4.

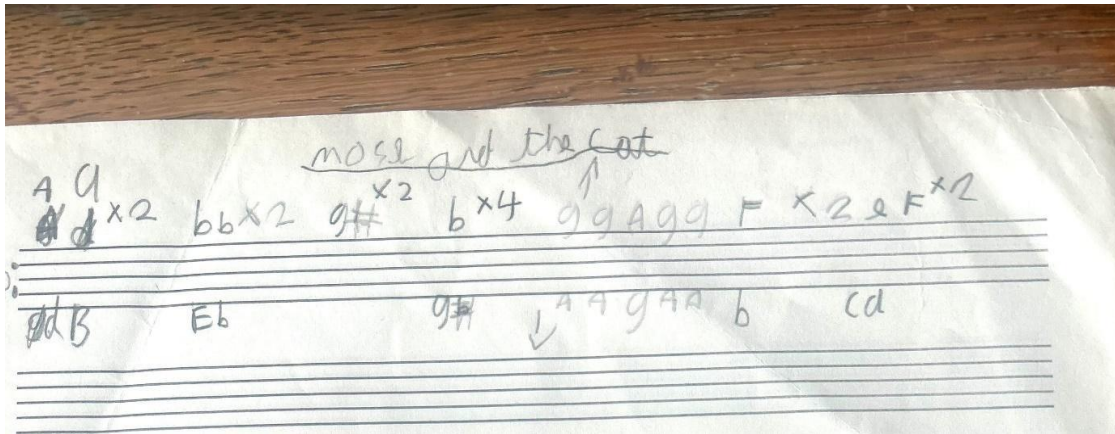


**Figure RS5.4 Multisensory technique for reinforcing learning (Ben 2022-2-17)**

In our previous lesson, I introduced the concepts through explicit instruction (UDL Checkpoint 2.1). I asked him to recreate the textures using textiles (UDL Checkpoint 5.1). As he is someone who enjoys doing practical things with his hands, he seemed relaxed throughout and took his time to ensure the result was neatly presented. I recognise that not every adolescent would feel comfortable doing this activity, particularly in a group setting. In later lessons, we reviewed the concept by listening to music excerpts and I assessed his ability to identify texture in the music (UDL Checkpoint 3.4). This was a concept which he seemed to recall and understand with a good degree of accuracy.

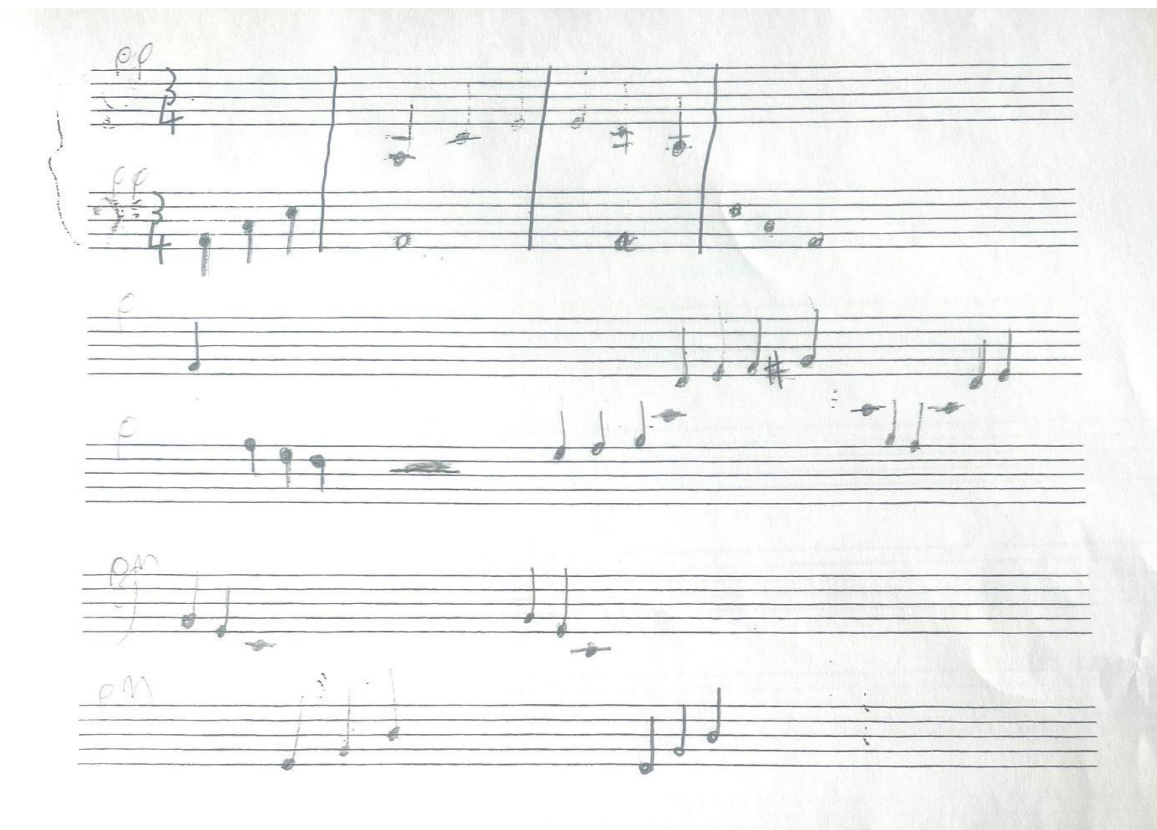
### **RS5.3.3 Providing options for physical action, expression and communication**

From early pieces, we used 'chunking' strategies (Checkpoint 3.3) to break music down into smaller sections. Ben and Alex used these strategies frequently: playing more slowly, hands separately and working to master smaller sections at a time (Checkpoint 4.1). Neither Ben nor Alex felt comfortable with singing, so I did not ask them to interact with the music in that way. I invited them to improvise and to compose using manuscript paper at first, and later, notation software, Flat.io (Checkpoint 4.2; 5.1). Alex's first composition 'Mose and the Cat' was created from simple note names with numbers to denote repetition (See Figure RS5.5).



**Figure RS5.5 Alex's composition from 2019**

And later, he demonstrated his ability to draw the notes on the staff (See Figure 7.7):



**Figure RS5.6 Alex's composition from 2021**

Ben enjoyed improvising freely. Although Alex was generally reluctant to improvise, occasionally he did show a preference for it as an alternative to activities requiring more concentration. And in their interview, both students mentioned that they enjoyed composing with Flat.io (UDL Checkpoint 5.2). They were able to choose instruments, clefs,

tempo, key signature, time signature and Alex particularly enjoyed using the playback function as feedback (Video excerpts are not available to readers due to GDPR and participant confidentiality). These pictures and videos demonstrate the development of these composing skills and increased confidence over time (UDL Checkpoint 5.3). Ben used notation software to simplify the score of a piece he was playing (Video excerpts are not available to readers due to GDPR and participant confidentiality). This was a useful tool as knowledge was used from a different angle and this sometimes revealed areas that needed reinforcement (UDL Checkpoints 5.1, 5.2, 5.3).

Even though I felt we did quite a lot of repetitive activities, particularly related to rhythm and note recognition, after longer school holiday periods these concepts needed to be revisited and rehearsed until they were secure again. With UDL as my framework and as my tacit knowledge of the students developed, I reflected on the use of repetitive activities and students' motivation. In future lessons, instead of feeling disappointed about this, I was careful to ensure that the student understood it was fine if they needed to refresh their memory in certain areas. I recognised that the balance in lesson activities needed to be weighted toward achieving their goals of playing specific pieces interspersed with brief, focused sessions of repetition.

### **RS5.3.4 Providing options for executive functions**

At the beginning of each term, I asked students to describe their goals and these were also shared with parents; I gave the students feedback at the end of the term and included this on our shared WhatsApp chat groups with their parents (UDL Checkpoint 6.1). If the goal chosen was unrealistic, we discussed ways to simplify or modify the piece, as has been demonstrated in previous sections. In advance, I would plan questions or prompts to encourage them to think about specific aspects of a piece (UDL Checkpoint 6.2). For example, this excerpt is from a lesson plan (2020-6-16):

- Practise this piece as it is written and then improvise changes to the rhythm or pitches. Draw pictures or a diagram to show me how you would change it.
- Go through the piece and tell me how many one-beat notes there are in the right hand in the whole piece? (Answers on the whiteboard) How many half-beat notes

are there in the right hand? How many beats does the first note in the left hand have? Tap the rhythm with the drumsticks.

- Left hand can be simpler than the one we played last week. Use chords C-G and F-C or you can just play C or F. See which Ben likes better.
- In bars, 9 and 10, there are some new chords. Challenge for this week: 'Using what you know about the lines and spaces, see if you can work out what notes these are'. Write them down and try to play them.

In earlier lessons and during the pandemic, I planned a number of activities for each lesson. However, as the students progressed, I tailored the lesson to their specific needs during that lesson, particularly related to stress levels, as well as encouraging them to identify any barriers. Resources were kept on a Google drive shared with their parents during the pandemic, but this was not used by the parents or students once face-to-face lessons resumed. To do what worked practically, I provided recordings, PDF copies of pieces and brief notes on the shared WhatsApp group. I sent recordings of achievements from lessons as well, whether that be a challenging line or an entire piece. These provided a way for students to self-reflect on their playing and to observe how they incorporated feedback. We discussed this process in subsequent lessons. Parents were also aware of the students' goals and progress.

### **RS6.3.5 Providing options for recruiting interest, sustaining effort, persistence and self-regulation**

Students had individual choice about their repertoire and the order of lesson activities, and they were aware that lesson plans and goals were flexible (UDL Checkpoint 7.1). Generally, they were aware of what they needed to do for practising through our discussion and shared notes, but at times, parents asked clarifying questions throughout the week. This dialogue helped me to observe whether students indeed understood what they needed to practise, and assisted parents in feeling knowledgeable and supported in helping their child. As mentioned in previous reflective statements, the environment of the lesson was designed to be calming and low arousal, and our lesson times and days remained the same so that the students could have a sense of predictability and reliability.

By optimising their own choice of repertoire and considering their interests, particularly those related to video games, this provided the students with a variety of different ways to explore and to participate in their own learning (UDL Checkpoint 7.2). Performances which exhibited effort were affirmed and acceptable, even if that meant the piece played was a close approximation of the actual piece (UDL Checkpoint 8.2). They were invited to play at recitals with other students in my teaching practice and both students performed well in front of an audience and seemed to find it a motivating experience. As mentioned in Reflective Statement 5, I strove to give students feedback in a way that emphasised their efforts, persistence and improvement. Recognising their reluctance to identify and acknowledge their strengths, I took opportunities to recognise what they had achieved and looked for ways to build on that growth (UDL Checkpoint 8.4).

In this thesis, I have already identified a positive correlation between my development through transferring power to the student and focusing on students' strengths with their confidence to develop metacognitive strategies (UDL Checkpoint 9.1) and to take breaks as necessary or to choose low pressure activities as a means of stress management (UDL Checkpoints 9.2; 9.3). Breaks were offered if I sensed that they were tired or depleted (UDL Checkpoint 7.3). By developing an empathic understanding of their challenges at school, I learned to recognise when they needed emotional support by talking through their challenges in a non-judgemental atmosphere. The aim of this empathic awareness was to reduce student stress, a factor which had implications for their self-regulation and emotional well-being (see Reflective Statement 7).

#### *RS5.4 Conclusion*

Mitchell et al. (2022) describe how 'the role of tacit knowledge cannot be underestimated because it gives meaning to explicit knowledge' (p. 1667). Using reflective observations and students' feedback, both during and after lessons, enabled the development of flexible student profiles which served to inform my future lesson planning and actions. Parental feedback, usually in the form of clarifying questions about practising or factors related to the student's school experiences or emotional state, was an integral part of this process and allowed me to correct errors in my judgement or misunderstanding of situations. In returning to the analogy of a map in this reflective statement, my aim was to articulate how

the landmarks of strategies from academic and pedagogical literature and the principles of the Universal Design for Learning (CAST, 2018) along with my interactions with students and their parents, led to my development of tacit knowledge; I saw the growth of my students and development in my own teaching. This growth in the awareness and use of specific strategies as well as the collaboration with students led to an increase in my teaching confidence to utilise these strategies and to plan lessons in a more accessible way for all students in my teaching practice.

## **Chapter 8 FINDINGS FROM TEACHER INTERVIEWS: STRENGTHS**

### *8.1 Introduction*

A focus on remedial and deficit-based strategies has previously driven music education approaches for dyslexic students (Oglethorpe, 2008; Miles et al., 2008; Morrow, 2023). Participants in the present research reflected this, being overwhelmingly focused on student challenges and corresponding strategies as compared with student strengths. However, a more positive view of dyslexia and related strengths is emerging (Eide & Eide, 2011; Malpas, 2017; Reid, 2016; West, 2009). Some research suggests that these strengths are compensatory mechanisms to mediate the deficits caused by dyslexia (Yu et al., 2018; Geschwind & Galaburda, 1985), others posit that strengths are related to the use of alternative methods of processing information during formative years (Tafti et al., 2009). A difficulty in making skills automatic (discussed in Reflective Statement 4) is likely caused from the use of declarative, rather than procedural learning, but this dependence on declarative learning may convey a benefit in allowing for an openness to new possibilities, or an explorative strength (Nicholson, 2015).

Literature on strengths related to dyslexia, including creativity, high-level reasoning strengths and character strengths, can be found in the literature review (Chapter 2) of this thesis. In the music education literature, strengths have been acknowledged, although this is somewhat limited. In the following table, a comparison of dyslexic strengths in the music literature indicates that visual memory and problem-solving skills were noted amongst three out of four of the sources. Aural memory, aural skills and kinaesthetic memory were each described by two out of the four sources. The remaining categories indicate some overlap, for example tactility may be connected to kinaesthetic memory and motor skills/strengths. Spatial aptitude and the ability to perceive multi-dimensionality may be related to visual memory skills. Just as there are complexities in determining what might be the cause of a challenge for a dyslexic student, this is mirrored in understanding the causation for strengths.



<b>Strengths reported in the music literature</b>	<b>Oglethorpe (2008)</b>	<b>Miles, Westcombe &amp; Ditchfield (2008)</b>	<b>Rolka &amp; Silverman (2015)</b>	<b>Nelson &amp; Hourigan (2016)</b>
Kinaesthetic memory	X	X		X
Spatial aptitude	X			
Aural memory	X	X		X
Aural skills	X	X		
Music composition	X	X		X
Improvisational skills		X		X
Visual memory	X		X	X
Verbal skills		X		
Motor skills/strengths		X		
Problem solving	X	X	X	X
Recognising patterns		X		
Intuitive/Insightful				
Vivid imagination	X		X	X
Ability to perceive multi-dimensionality	X		X	
Empathy				X
Determination	X	X		
Performance skills		X		X
Creativity	X			

**Figure 8.1 A comparison of the music literature on dyslexic strengths**

A study of teachers and dyslexic schoolchildren found a significant correlation between teachers' expectations of dyslexic students and the student's achievements (Hornstra et al., 2010). Teaching that is focused on a student's strengths might change the teacher's perspective of the student and the student's perspective of themselves and may motivate them to continue during times of frustration. Untangling any bias or assumptions that we as teachers hold about dyslexic students or their capacity for learning music, or our ability to help them learn, and instead re-focusing on their strengths might allow us to reframe our expectations for their progress.

The following sections contain themes which emerged in my interviews with instrumental and vocal teachers: creativity (8.1.2), verbal strengths (8.1.3), aural strengths (8.1.4), memory strengths (8.1.5), an ability to follow detailed instructions (8.1.6), strong performance skills (8.1.7) and persistence (8.1.8). Teachers' views aligned with the strengths identified in the literature.

### **8.1.2 Creativity**

Teachers reported creativity as a strength for dyslexic students (P1, P3, P4, P7, P9, P14, P15, P21, P24, P25, P26, P27). Some teachers referred to benefits associated with creative thinking such as problem solving and a vivid imagination. Teachers noted that there was a uniqueness to dyslexic students, with P26 stating that 'There is a creativity and, I hate to use the cliché, but a "thinking outside the box" really'. P15 described this, stating 'It's about solving problems, and being creative, thinking big and globally, inventing things, seeing solutions, and new ways of doing things'. This can be a disadvantage as well as a strength when it comes to a musical score, as P21 noted:

They are highly creative and three-dimensional thinkers. This is one of the problems because the score is two dimensional. The keyboard is three dimensional and makes much more sense than the score. (P21)

This suggests that interaction with the kinaesthetic and aural patterns of the keyboard might prove useful as part of the students' learning process. Suggesting that this creativity was a marker of dyslexic students, the teacher remarked that 'I can see who is dyslexic without knowing how they read or write; I can feel how they innovate or are creative in a certain way' (P15). This seems to indicate that teachers with more experience of teaching dyslexic students recognise specific aspects in the students. Another teacher related an example of this multi-dimensional thinking:

There was a student who came in one day and said 'Do you realise that the letter names of your scales on the Circle of Fifths, if you add them together, they always add up to seven. For example, C major has no sharps or flats, C# has seven or B major has five and B-flat major has two.' I had never noticed that pattern before. So, now we have the 'Seven Rule'. (P21)

P5 also identified students' original thinking: 'I found with my dyslexic students, they really do view things in a very quirky way'. Teachers likewise reported students' use of imaginative improvisatory and composing skills which were also used as memory aids for recalling pieces.

#### **8.1.2.1 Vivid imagination and the ability to visualise abstract images**

Grant (2010) describes the ability to use visualisation as a compensation for poor memory. Some of the interviewed teachers in this PhD research would deliberately invite pupils to come up with a story or scenario or image to recall or improve their interpretation of phrases or sections of a piece of music. By doing this, they may be more likely to recall the dynamics and articulation of a piece. It seemed that teachers recognised this as an effective strategy for students and encouraged its use in different contexts. P25 described this vivid visual imagination as the student having 'an image and story in their head' (P25). Another teacher related how a dyslexic student came up with the story behind a piece, describing:

She's started thinking about what this story might be behind it. She came back the next week and it was like a sort of film script. 'He's left me, woe is me, but now I'm strong'. (P6)

Another student would use their imagination to draw connections in the score:

I had this student who would connect dots on the score and make pictures. I would give him extra copies. We would work on the shape of the melody while he was adding shape and colours. It was brilliant. I find the imagination and the 'thinking outside of the box' so creative. (P25)

Using composition and inviting students to verbalise their thoughts after listening to music were strategies used by P15:

I think that by creating music and doing it early, the dyslexic students are quite good at that. Composing their own tunes. I think that's important. Also, thinking in pictures ... Dyslexic students are usually good at that, but it is very good for non-dyslexic students to practise this as well. (P15)

This engagement with the music in a way that the student enjoyed enabled them to create their own music, practice using the score in a way that supported their creative process and encouraged them to think about things like where pitches are placed and why rhythm and time signatures are important. This also served as a means of giving the pupil more of a sense of ownership which helped to motivate them.

### **8.1.2.2 Improvisatory abilities**

Leveroy (2013) found that dyslexic actors excelled at improvising, feeling free from the constraints of a script. Further to creative thinking and problem-solving abilities, teachers reported that improvisatory strengths were also observed in their dyslexic students (P1, P2, P3, P4, P5, P14, P19, P23, P24, P25). A participant mentioned a contrast between dyslexic and non-dyslexic students and the use of parameters in improvising tasks:

I like working on improvisation with dyslexic students as well, because they are not scared of it. The rest of the students are happy with sight-reading, but they are scared of improvisation, but it is different with dyslexic students. We start with pictures, create the whole story, and then I usually accompany what they play. We do set some parameters, 'You can use these keys in any octave' or 'How is the character of the song going to be according to the picture?' (P25)

Another teacher observed 'They tend to be better at memorising and improvisation and more musically creative than those who have always been wedded to the score' (P9). An instrumental teacher reiterated the ease they observed in dyslexic students when using improvisation:

Some of my students, after they have approached a scale in an improvisational way, when they approach a piece in that key they will start adding bits in. They learn it [in order] to use it. (P24)

Musical improvisation was viewed similarly to the actors described by Leveroy (2013). P23 reported that:

From time to time, we get students who, because they really struggled with notation, have a real gift for improvisation. The fact that they have to trust their ear

more than their visual processing has led them to approach it in that way. It's not universal, but some children have had the most difficult challenges, but because they have got this facility in handling sounds imaginatively, they are able to produce something quite sophisticated. (P23)

Another teacher reported the use of improvisation as the student created a composition:

So, his composition was purely done by him improvising and then finding those patterns on Sibelius that he played around with. That's how we did it. We did it via improvisation, recording, and then we put it on Sibelius. (P5)

Describing their use of improvisational activities to create a more relaxed learning environment and the impact on students, P10 stated:

I knew that jazz was an improvised style, and if it's improvised then it doesn't matter if you get it quite right. This took away some of the stress. I could start working with jazz pieces at [private school] and I could say 'It's not what is written, but I like it' or 'what do you think about that bit?' and I didn't worry one bit if it didn't match the written page, unless it was for exam purposes of course (P10)

P16 described how improvisation was used to '... soften any panic or performance anxiety that can develop ...' (P16). This reinforces the idea that dyslexic students might choose improvisatory music-making over an activity like sight-reading in which the numerous processing demands may cause them to feel overwhelmed. Again, they may experience more control in this type of activity, as well as ownership, motivation and a sense of achievement.

### **8.1.3 Verbal strengths**

Teachers reported that some dyslexic students had strong verbal abilities. A piano teacher described their dyslexic students as 'chatterboxes; they will come up with a story for the whole piece of music and give it character' (P25). P7 felt that their student would have been able to respond to verbal questions, rather than text, to pass a written music theory exam:

He just couldn't express himself in written form. I think probably if you sat him down and asked him the questions verbally for Grade Five theory, he'd be able to do it; but he just wasn't really able to sit down and complete the exam for two hours. (P7)

A teacher referred to the importance for some students in vocalising or verbalising what they are learning as they touch the score or the keys as a multisensory strategy (P8). Mills (2018) states that 'This kinesthetic approach in conjunction with hearing, saying, and cognitively processing causes students to use both sides of the brain to process (verbal-linguistic and visual-spatial) rather than rely on just one neurological route' (p. 39). A teacher described how encouraging a student to use their verbal skills enabled them to get a sense of the student's level of understanding: 'I often get kids to repeat back to me what they think I've asked them to do' (P4). It might be suggested that strong verbal abilities are one of the compensatory mechanisms used by some dyslexic students. Several studies (van Viersen et al., 2015; van Viersen et al., 2016; Moojen et al., 2020) suggest that higher verbal abilities are a compensatory and protective factor which may allow dyslexics to compensate for their difficulties with text. Other research (Foley Nicpon et al., 2011; Berninger & Abbot, 2013) suggests that a mismatch between exceptional verbal abilities and a specific learning difficulty may be the cause of the misidentification or lack of assessment in some dyslexic students, resulting in poor educational accommodations as well as an increase in negative psychosocial factors. This underscores the importance of training to inform teachers as to possible indicators of dyslexia.

#### **8.1.4 Aural strengths**

Several teachers identified aural strengths in dyslexic students, including aural memory and good pitch perception (P10, P12, P14, P17, P18, P20, P21, P22, P23, P25, P26). One participant noted 'I would find the student's quickest way to learn; with a dyslexic student, it tends to be the ears or the body versus the eyes' (P20). Another teacher suggested that the strong aural memory was a compensatory device, stating that 'They may develop an aural strength, but it is probably memory based' (P10). Illustrating how an emphasis on aural strengths might influence teaching strategies, a participant stated:

If you have a processing difficulty, rather than trying to memorise it by reading it, it might be very hard. They might prefer to memorise it aurally. (P23)

It was noted that some dyslexic students had accurate pitch recall:

He's got incredible pitch. If I gave him a B-flat and asked him to sing a D, he would.

He can visualise that note, so he has very good relative pitch. (P12)

A teacher described their student's impressive ability to learn a piece after hearing it:

They will bring me a piece of music, and I will think in my head 'Not possible'. I had one lad who came to me at the age of nine and taught himself to play Chopin's *Fantaisie Impromptu* from watching it on YouTube. Okay, it wasn't a perfect rendition, but it was pretty good! He had dyslexia but he had an amazing ear, good dexterity and good memory. (P18)

This process may have been supported by the student's visual attention to the movement of the hands on the keyboard as well as through aural learning. However, teachers were keen to connect to students' aural strengths. A vocal teacher referenced the use of aural abilities to detect and correct errors:

Instead of analysing in terms of F sharps, G [notes], key signatures and notation, we will meaningfully make the correct sounds a few times and then insert that meaningfully correct bit of sound-making into their music rather than thinking of the notation and they seem to be quite happy doing that. (P11)

Highlighting the use of aural skills over sight-reading abilities with a particular student, a piano teacher stated: 'I think when he had an aural picture he was able to quickly recreate that on the piano in a slightly more successful way' (P7).

P18 found that there needed to be a balance between relying on aural memory and more challenging skills:

I would teach them pieces by rote, but we would do sight-reading as well but as a different issue and eventually the two will overlap. We have to build on what they can do. Some teachers will say 'I will not play it for you first'. You have to make the most of whatever gift they've got and then work on the things they are not. It's difficult, of course. I will usually alternate; when they first come in I will ask them to

play whatever they are bursting to play for me. Then, I will tell them how wonderful it is and we will tweak it. Then, we alternate that with something they might not want to do, scales or whatever, and then they can play me something else. For a short time, we will do sight-reading. But maybe not a whole piece, just a line of notes or just working out the notes. (P18)

This suggests that teachers recognise aural memory strengths but realise the need to encourage the student not to avoid technical work or sight-reading which they may find more difficult. Based on these findings, there appears to be a close connection between aural and long-term memory strengths in dyslexic students which may point to this as another compensatory mechanism to protect against difficulties with sight-reading.

### **8.1.5 Memory strengths**

Long-term memory and kinaesthetic memory strengths were identified by teachers in this research. Teachers recognised students' challenges with working memory and the impact that had on recalling the labels of symbols and notes when needed.

#### ***8.1.5.1 Long-term memory strengths***

Some teachers (P10, P12, P17, P18, P26), noted their dyslexic student's strengths: 'Long term memory is one of them; once something is known, it is known' (P26). Another teacher described how their student's 'memory for music is really good; the more they play a piece of music, the less reliant they are on the score' (P12). However, a piano teacher noted that this was not always the case, and felt that complexity and number of pieces should be limited:

You can't have pieces that take them months to learn because they are unlikely to remember them. You can't do more than one piece at a time, although it depends on the person, but you should be prepared to concentrate on one piece. Two can be too many sometimes. (P10)

Findings suggest that this may indicate that there are some considerations for teachers related to their choices of repertoire and lesson/curriculum planning. The concept of a memory strength as a compensatory technique related to aural strengths caused a participant to reflect that 'They tend to be much better aurally; they don't read well, but



they can play well by ear or can memorise well' (P18). There are positive as well as negative benefits of this, as two teachers (P7, P10) referred to the difficulty they had in helping students unlearn errors which had been committed to long-term memory systems.

She was this really bright, really hard-working girl who was really smart and a really good oboist, good singer, good pianist. But the most frustrating thing about her piano playing was that she would really sort of 'learn in' mistakes (again it was this relationship to the score) which you could never extract. (P7)

This correlates with Oglethorpe (2008) who stated about dyslexic students that 'once something has been committed to the long-term memory it is almost impossible to erase it' (p. 6). These findings suggest that although many dyslexic students appear to have strong long-term memory systems, the importance of supervised learning and strategies which strengthen their metacognition might prevent the ingrained errors which can occur.

#### **8.1.5.2 Kinaesthetic memory strengths**

A strong memory for the kinaesthetic shape made by the student's hands was observed, particularly by those teaching piano:

You might show them a chord on the piano and show them the shape of the music and they associate the two. I have a dyslexic student aged seven, and she has all the classic signs. As long as she knows what one of the notes is, she can find any chord shapes with her left hand, which is mostly where the chord shapes are. (P10)

I quite frequently will get pupils to play with their eyes closed. 'Let's have a challenge'. You are simply doing it by feel. (P3)

This correlates with the spatial aptitude strength in the literature (Oglethorpe, 2008). A piano teacher had a different view of this kinaesthetic memory or 'muscle memory', as they described:

This is very important in my teaching, that 'muscle memory is not a thing'. Providing you are capable of playing the passage, when you do it 'using muscle memory' (i.e. when it feels like you are on automatic pilot) it is because there is a neural instruction set off by something. (P2)

For a teacher who themselves may not rely on this form of memory, it might be difficult to appreciate how important and useful it is to a dyslexic student. Time and patience might be required as the student becomes familiar with the feel and shape of the movements in their hands and fingers.

### **8.1.6 Ability to follow detailed verbal instructions**

Teachers (P2, P5, P11) reported finding that dyslexic students were receptive to verbal instructions. One participant described this:

It was absolutely phenomenal how many of these specific instructions she could take on board. And I think there's a combination of recognising that some of these instructions are things that people can have and it comes more easily, they just naturally put together this group of instructions, just piecing it out step by step. (P2)

This may suggest that the teacher was scaffolding instruction to mediate the student's working memory skill limitations. These points suggest the importance of knowing the student in order to achieve effective learning without overloading them, and the value of clear and targeted information for the student. It also suggests that teachers need sensitivity and patience to know how to assess the student's ability to perform without reminders.

### **8.1.7 Strong performers**

Nelson and Hourigan's (2016) research sought to establish an understanding of the experiences of adult performers with dyslexia; the fact that they were professional musicians presupposes some strength in the area of performance. In this research, some dyslexic students were reported by teachers to be strong performers (P3, P4, P7, P11, P23, P26). It was observed that 'They will have an intense creativity with the music; with interpreting the music' (P26). P4 considered that:

Whether they can clap a rhythm back or if everything else is a struggle, but once they learn something they can nail it and never forget it or maybe they perform with real panache. When they've got something, no matter how difficult it is, they can perform it, playing with a lot of energy. (P4)

Connecting memorisation skills to effective performance, P11 stated:

It's been very important to me that I feel that they can deliver great musical performances. So, I get them to memorise as soon as possible. I just really think I've seen that some of these singers, they can really sing brilliantly. And they can start to learn much more quickly so it's great to try and get them past the dyslexia. To unlock what they can do. I just don't, I don't really feel the end result of singing (which is actually all that I really know about) needs to be influenced by the learning from a score. (P11)

One teacher reported that 'If you had a line-up of our typical students performing music, you would not be able to tell who was dyslexic and who was not' (P23), indicating that the barriers for dyslexic students to learning music do not necessarily have to limit their performance of the music.

Additionally, a student's enjoyment of the music meant more than high marks on a graded exam and gave them a sense of pride in their achievements, as a participant noted:

I think sometimes as long as they are enjoying the process, that's the main thing. She's always performed in concerts and shown off what she has achieved. (P3)

This was seen in students' ability to connect with an audience. A teacher would ask their student to visualise their interpretation:

If you are playing for a concert, what you are doing when you are performing a piece is you are painting a picture. What is the picture that you see? And some of them will go to great lengths to paint or to draw a picture and present what the music means to them. (P4)

Often, they are actually kind of musical, very intuitively musical and instinctive. Creative. Good at performing, playing in a concert and communicating to the audience, all those strengths. (P7)

The strengths of creative and vivid imaginations, empathy and the ability to connect with an audience enable some dyslexic students to perform successfully. These findings suggest that

performance seems to encourage the students' self-concept and increase their motivation for learning.

### **8.1.8 Persistence**

Persistence and resilience were character traits which teachers observed in some dyslexic students, with P12 reporting: 'He will practise every single day, regardless of the conflicts that he has ... he has got good discipline' (P12). This ability to endure in the face of difficulty was highlighted by another teacher who stated that their student 'was just such a hard worker' and that 'she could have done with extra time in exams and all of that, but she just kept at it' (P7). Another teacher admired their student's persistence in the face of challenge, stating that 'She does find sight-reading hard, but she is determined to do it; I read somewhere that dyslexic people are more determined than other people to get going' (P17). Teachers were aware that this need to work diligently might be a means of compensating for other challenges like slower processing speeds and poor working memory. Motivated by a goal to play a specific piece or perform, P27 described their student, saying that 'Determination has been a strength with dyslexic students, and they want to achieve the same despite the challenge' (P27).

### **8.1.9 Summary of findings**

A number of themes and subthemes emerged from the teachers' interview data in relation to strengths that were observed in dyslexic students. The following section is a summary of these findings:

- Creativity was seen in dyslexic students' unique approaches to learning and connecting ideas in a novel way, which teachers described as three-dimensional thinking.
- This suggests that interaction with the kinaesthetic and aural patterns of an instrument might prove useful as part of the students' learning process, as opposed to working with a two-dimensional music score.
- A vivid imagination was another creative strength which teachers utilised by encouraging students to make a visual narrative of the piece to further engage with it and to aid their memory recall.

- Teachers recognised that dyslexic students enjoyed creating and composing their own music and were encouraged by teachers to verbalise their understanding of music which they heard as a way of engaging with it.
- Dyslexic students showed an eagerness to improvise and teachers recognised that this may stem from it requiring fewer processing demands, as opposed to an activity like sight-reading. Teachers generally began to introduce this with some parameters such as a scale or with an emphasis on specific musical concepts.
- Teachers recognised that an improvisatory skill might have been developed as a means of using aural strengths to compensate for poor engagement with the score.
- Improvisation was used in conjunction with notation software as an initial pathway for composition projects.
- Verbal strengths were identified in dyslexic students and teachers utilised this in a multisensory approach, similar to literacy strategies, of vocalising note names or pitch in conjunction with touching the score or the keys. Students were asked to summarise verbally what they had learned as a means of reinforcing their learning.
- Students who find writing difficult might benefit from teaching and assessment approaches that focuses more on a verbalisation of understanding.
- Teachers recognised that aural strengths, aural memory and pitch perception, were most likely a compensatory mechanism used to overcome difficulties with sight-reading.
- Some teachers were keen to build on and develop these aural skills but noted the need to balance learning between more challenging activities, such as sight-reading, with those that gave a sense of achievement.
- Despite a recognition of challenges related to poor working memory, teachers highlighted the long-term and kinaesthetic memory strengths of dyslexic students which they also recognised might be a compensation.
- This long-term memory strength was a factor for consideration when planning lessons and choosing repertoire. Teachers were aware of the time and effort in

terms of repetition required from the student that may be needed to commit a piece to long-term memory, and adjusted repertoire amount and difficulty level accordingly.

- Two teachers noted that dyslexic students found it challenging, if not impossible, to ‘unlearn’ errors once they were committed to long-term memory storage.
- Supervised learning and strategies which strengthen students’ self-reflection in the learning process might prevent the ingrained errors which can occur.
- Spatial and kinaesthetic strengths were described by teachers as a means of remembering music for dyslexic students. This suggests that teachers may need sensitivity to the time it takes for students to become familiar enough with the feel of the music to recall it effectively. This also emphasises the need to focus on the student and their needs instead of the teacher’s preferred approaches for learning.
- The strength of being able to recall and process detailed verbal instructions might be a compensatory mechanism to deal with working memory skill limitations. This suggests the importance for teachers to have an awareness of how to use these effectively without overloading the student and an ability to assess when the student may no longer need the reminders.
- Teachers highlighted the strengths of dyslexic students in terms of their abilities to perform creatively and to communicate well to an audience. Quality performance experiences led to a sense of achievement and accomplishment which might positively affect their self-concept and motivation.
- A sense of resilience and persistence was noted by teachers who recognised that students’ desire to achieve a goal or to perform often motivated their intense determination.

### **8.1.10 Conclusion**

Teacher perceptions of dyslexic student strengths were similar to earlier findings in the literature. Creativity, vivid imagination and improvisatory skills were noted as useful building blocks for student’s devising their own learning strategies or to which they might

incorporate previously learned material. The use of problem-solving abilities to find unique solutions was incorporated into creativity skills. Verbal, aural and memory strengths were noted, as were the abilities of dyslexic students to follow detailed instructions. Dyslexic students were reported to have strengths in terms of performing, including the ability to communicate well with an audience, and were described by their persistence and determination to continue to put forth effort to achieve their goals. Suggesting that the benefits of strengths-focused teaching might extend into other areas of students' lives, Rappolt-Schlichtman et al. (2018) state 'If we instead build the capacity of students with dyslexia to both improve on their areas of weakness, as well as build on their individual and unique areas of strength, we begin to create the foundation for thriving in learning and life' (p. 872).

## **REFLECTIVE STATEMENT 6: TRANSITION TO A STRENGTHS-FOCUSED APPROACH**

### *RS6.1 Introduction*

Dyslexia is widely considered to be a disorder or disability, and current definitions are rooted in deficit-thinking, although some recent research reflects an awareness of strengths in individuals with dyslexia. I reflected on my conversations with professional musicians in internationally recognised orchestras or ensembles who, even at such acclaimed levels, declined to disclose their dyslexia. This was due to a fear of facing stigma at the mesosystem, exosystem and macro-system levels (Bronfenbrenner, 1979). The mesosystem levels involved their relationships with colleagues and the fear that disclosure might bring about a lack of trust. At the exosystem level they were concerned about losing employment opportunities and feeling shame in the workplace. At the macrosystem level are the cultural and societal influences which may be formed from misconceptions about dyslexia and musicians with dyslexia. I felt a sense of injustice about this, and it motivated me to want to make a change in my teaching and approach to dyslexic students. As Dixon et al. (2016) state: 'Deficit-based questions lead to deficit-based conversations, which in turn lead to deficit-based patterns of action' (p. 7). These deficit-based patterns of action culminate in a sense of shame in individuals with dyslexia and a feeling of stigma in society.

In reflecting on this, I considered how I might be described as disorganised, a procrastinator and highly opinionated; equally, I might be described as a loyal friend, a caring mother and a good cook. Whilst all of these descriptions might be true, depending on the context, it is reasonably certain that either description would greatly influence how I might be perceived by others, what I might be considered to be capable of or entrusted with in any given situation. Who among us would choose or desire to be defined by our less positive attributes? This might also influence how I view myself and have a profound impact on my mental health. A poor sense of identity and self-concept for individuals with dyslexia may be the result of repeated criticism (Wilmot et al., 2023). Singer et al. (2013) describe this connection, stating that 'the capacity for meaning-making in response to narrated experience is generally predictive of psychological health, well-being and capacity for



growth' although they suggest that it must be 'coherent', 'flexible' and 'accurate' otherwise the individual may develop a fixed mindset or unrealistic expectations (p. 575).

### *RS6.2 Strengths-based approaches in literature*

Literature related to dyslexic strengths (Eide & Eide, 2011; Gobbo, 2020; Malpas, 2012; Nelson & Hourigan, 2016; Rappolt-Schlichtmann et al., 2018; Rolka & Silverman, 2015) and observations from my teaching practice led to a transition from my initial perceptions of dyslexia as a deficit-based condition to an understanding that 'dyslexia' represented a diverse array of individuals with patterns of strengths and areas of challenge. I began to understand more about how the differences in brain structure and functioning might convey specific advantages, and that a reliance on declarative learning over procedural learning may impart an explorative strength (Nicholson, 2015). This suggests that although a person with dyslexia may recall symbols or facts, their ability to utilise these in an automatic way may be impaired. However, this may mean that they are able to use their understanding of the declarative information in novel ways.

Maier (2014) describes this paradigm shift from a 'deficit lens' to a 'capacity lens' and suggests that this will impact the way the teacher speaks about the student, how support needs are determined, how collaboration is valued and the teachers' expectations for the student. The benefits to students from this approach can be considered from the positive psychology literature. Seligman's (2011) theory of human flourishing, based on the PERMA model of well-being, includes the consideration of 'positive emotions, engagement, relationships, meaning and accomplishment' (p. 16). Fredrickson's (2004) broaden-and-build theory links positive emotions to an openness to new ideas and the development of resilience and agency, believing that this might create reserves for dealing with high pressure or demands. Using an analogy from strengths-based sports coaching, Dixon et al. (2016) suggests that although 'the natural response may be to focus on fixing problems and eradicating weaknesses', it is more important to acknowledge and to question why something was *successful* in order to cultivate a positive mindset.

This literature suggests that by focusing on the lenses of students' strengths and capabilities, rather than on their deficits, we might imagine new ways of thinking about and collaborating with them. This also represents a shift at the macrosystems level of inclusive

music teaching where limiting belief systems might give way to capability-focused paradigms in which the students' needs are at the centre. Armstrong (2012) describes this as 'positive niche construction' and suggests that there are seven components, quoted below:

1. Strength awareness
2. Environmental modifications
3. Assistive technology/Universal Design for Learning
4. Strength-based learning strategies
5. Human resources
6. Positive role models
7. Positive career aspirations (p. 14)

Implementing these areas into teaching may have an impact on dyslexic students' self-belief and feelings of agency, as described in Reflective Statement 3, and may encourage them to move from being passive to more active learners. Whilst I sought to identify my students' strengths, created a low arousal learning environment for face to face lessons and as much as was in my control for online lessons and employed technology, strengths-based strategies and the Universal Design for Learning Framework (CAST, 2018) to guide lesson planning, aspects of the 'positive niche construction' components which I did not emphasise were positive role models and career aspirations. Many of the examples of musicians with dyslexia are not well documented and any example would need to be in line with the individual student's aspirations, otherwise they would not see it as being relevant to them. Furthermore, there might be many reasons why an individual with dyslexia has become successful, although this idea of success tends to be narrowly defined in terms of wealth and fame. I preferred instead to focus on my students as individuals with their aims and goals (or what success looked like for them) in learning to play the piano as worthy of my attention and resources and viewed these as sufficient in themselves rather than warranting the possible distraction of using valuable lesson time in discussion of famous individuals with dyslexia.

Another aim of this thesis is to raise awareness of the importance of the development of human resources around the student, so that teachers, parents and other professionals are equipped with accurate knowledge about dyslexia and an awareness of approaches which promote the student's metacognition. In that sense, human resource development has occurred in my own growth as a teacher, but I hope to make further contributions to those who teach, parent and work with dyslexic students.

### *RS6.3 Positive psychology in music pedagogy*

It was clear from dyslexia literature (Chapter 2) that despite a fair amount of research, there is still much to be understood in relation to the defining characteristics and cause of dyslexia. I became aware that the music and dyslexia literature were largely focused on deficit-based thinking. In reflecting on my own experiences as a student which were rooted in the master-apprentice tradition, the focus was on direct instruction, limited student autonomy and critical feedback. I distinctly recall the few positive comments and praise which were made many years ago. Drawing on music pedagogy literature, I found that Patson and Waters (2015) refer to a model of positive instruction in the music teaching context called PIMS (Positive Instruction in Music Studios), and suggest four steps in this process: 'positive priming exercises, reminding students of their strengths, pausing to praise, praising the process, not just the results' (p. 4).

Louis (2011) points out that mere 'talent identification' may result in fixed mindsets with students, similar to the identification of weaknesses, but suggests that a 'strengths development intervention' might be more beneficial as it was 'designed to encourage students to consider novel approaches for mobilizing and strategically developing their existing talents into strengths, emphasizing students' capacity for growth' (p. 209). In lesson planning, I used the following questions in Figure RS6.1 to think about how lessons might be tailored to the individual student, their strengths and their needs:

# Key Questions to Consider When Planning Lessons

## Think about how learners will engage with the lesson.



### Does the lesson provide options that can help all learners:

- regulate their own learning?
- sustain effort and motivation?
- engage and interest all learners?

## Think about how information is presented to learners.



### Does the information provide options that help all learners:

- reach higher levels of comprehension and understanding?
- understand the symbols and expressions?
- perceive what needs to be learned?

## Think about how learners are expected to act strategically & express themselves.



### Does the activity provide options that help all learners:

- act strategically?
- express themselves fluently?
- physically respond?

From: *Universal Design for Learning: Theory and Practice*

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Figure RS6.1 Key questions to consider when planning lessons (UDL, 2020)

I recognised that views that are rooted in deficit-based thinking might be expressed even in subtle ways in my teaching. This might be in the form of lowered expectations or conversely, I might develop unrealistic expectations for the student which might place a burden on them and cause them to feel a sense of inadequacy. I sought each student's views on our lessons and checked with parents often to see if there was a mismatch

between my perspective from what I was hearing and seeing in the lessons and what the student was expressing at home. Asking these questions made me aware of aspects of the students' lives which might not have been made available to me otherwise; for example, I began to understand the impact of school exams, friendship difficulties, frustrations with teachers or the school setting, house moves and the subsequent effects on their emotional and mental well-being. By continuing to focus on what was working and by taking opportunities to pause and praise them for their efforts and to remind them of their strengths, the following examples demonstrate evidence of how I sought to establish a positive learning environment.

### **RS6.3.1 Ben**

#### ***RS6.3.1.1 Introduction and early self-reflection***

Based on my experiences teaching Ben (See Reflective Statement 2), some of the emerging strengths I had observed were strong pitch perception and aural memory, excellent coordination skills and persistence. Dixon et al. (2016) describe the purpose of inviting self-reflection as 'asking 'how' and 'why' type questions, in order to build on positives and replicate success' (p. 13). The following examples demonstrate evidence of pausing to self-reflect on his progress and to praise the effort he was putting forth in the process. In the following example (Video excerpts are not available to readers due to GDPR and participant confidentiality) Ben used the whiteboard feature on Zoom to draw an emoji and treble clef and was asked to reflect on the things he had achieved in the lesson. Upon reflection, I can see that he minimised his own effort and achievements from the lesson. Whether this was just the result of tiredness at the end of the lesson or not being used to acknowledging positive feedback, it was difficult to tell. I continued to focus on what was working and took time to pause and praise them for their efforts and to remind them of their strengths.

#### ***RS6.3.1.2 Praise***

I took the time to praise him for creative solutions to a problem when, during an online lesson I did not have access to a copy of the music, Ben took a screenshot of the score and set it as his virtual backdrop on Zoom (Video excerpts are not available to readers due to GDPR and participant confidentiality). He did seem very proud of this and it reminded me that this was a good example of the use of dynamic and interconnected reasoning skills

described by Eide and Eide (2011). I praised him for his sight-reading efforts when learning 'The Clown' (Video excerpts are not available to readers due to GDPR and participant confidentiality). A few months later, I reminded Ben of his excellent coordination skills when he played 'The Clown' again (Video excerpts are not available to readers due to GDPR and participant confidentiality). He seemed to acknowledge what was said, but replied 'Well, it took a long time'. I found this was relevant because it signified to me how deeply rooted his lack of confidence was and I felt sad that he did not recognise the importance of these strengths in the area of aural memory and strong coordination skills. These are highly valuable talents for any musician. I reflected on my comment 'that's a gift, though' referring to his good coordination skills and my intention was to explain that others might find coordination much more difficult, although I try to avoid comparison. So often, it seems that people with dyslexia are made to feel small because of their challenges and my desire was to remind Ben of his areas of strength. However, I understand the importance of the words that I use and how this might have undermined his effort to learn the piece. He may have felt that he had to work very hard to accomplish this result (in a piece which he had only begun to sight-read two months earlier), but perhaps he needed this effort acknowledged as well. His persistence did pay off, as this recording shows that by January, 13, 2022 he was able to play through the piece fairly well to the end with a few reminders, mainly provided to support the transitions between sections (Video excerpts are not available to readers due to GDPR and participant confidentiality).

### ***RS6.3.1.3 Strengths-based approaches***

Building on Ben's strong aural skills and wanting to practise sight-reading in short segments, I chose this Melody Among Us game (Video excerpts are not available to readers due to GDPR and participant confidentiality), where the user has to sight-read a short phrase and remember the sound and sight of the phrase. If they encounter that phrase again, it is the 'imposter' and the student should identify it and choose not to play it. I predicted he would recognise the sound and perhaps recall the sight of the Imposter, which he did on each occasion it appeared. I hoped that this would be a way of developing his strength in this area, as well as motivating him to work on other aspects. There were some challenges, with finding the note on the keyboard and some directional confusion, but what was interesting was how he made progress in recognising the pitch, location on the keyboard and direction

throughout the course of the game. Over time, there was growth as he developed skills in areas that had previously been quite difficult for him, for example, sight-reading and following the direction of the music on the keyboard. Morrow (2023) suggests having the student draw a series of high and low notes on a blank piece of paper and then covering that with an overlay of the grand staff to show the student how right-left on the keyboard correlates to high-low on the score. In the future, I would use this strategy for a beginner student who struggled with directional orientation. However, it may be that repetition over a period of time might be needed to establish directional accuracy, and that a one-time exercise might not be sufficient.

Scales were another area where his aural strengths were developed (Video excerpts are not available to readers due to GDPR and participant confidentiality). I include this because it shows our use of aural skills in learning scale patterns at an early lesson. However, upon reviewing it, I can see that the student might have benefited from more thinking space and less verbal communication from me. He might have been encouraged to play slowly as well. Also, upon reflection, I would not have let him know to expect a 'sharp note' in the G scale. Because I did, he was anticipating it before it happened, and more likely than not, would have figured it out on his own if I had not said anything. This would have allowed him that opportunity to discover the scale as he developed his aural skills and knowledge of major scale patterns. From this, I learned to allow more time and to hold back on information which the student might be able to solve on their own.

Later, the aural pattern of a scale was revisited with a diagram<sup>29</sup> of the Circle of fifths in which Ben filled in the major scale tonic note names, to incorporate a greater understanding of keys and key signatures (Video excerpts are not available to readers due to GDPR and participant confidentiality). I asked Ben a series of questions so that he would become aware of the relationship between keys, but he took the responsibility for playing the scales and completing the worksheet. In this clip, I praised him for his effort, but also emphasised his aural strengths: good pitch recognition and ability to recall aural patterns. I expressed appreciation for the sight-reading effort earlier in the lesson, an area in which he was

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<sup>29</sup> <https://www.myfunpianostudio.com/music-theory/circle-of-fifths-worksheet/>

showing improvement. My aim in doing this was that this was to help him to see his capacity for growth in all areas, not just in areas of natural aptitude.

#### ***RS6.3.1.4 Later self-reflection***

In 2022, I asked Ben to reflect on his experiences (S3 Transcript 2022):

R: What are your strengths in learning music?

Ben: The best way is listening to it. I remember songs. Then I practise and practise it.

R: Without a recording, what would you do?

Ben: I would try to hum it. I would write the note names down.

R: But you don't often do that, actually.

Ben: Yes, but if I was on my own and I don't know the piece ... But usually you give me examples, and we make recordings.

R: Any other activities you enjoy in lessons?

Ben: Composing on Flat.io

R: What do you enjoy most about playing the piano?

Ben: It helps me to relax and is something fun to do when I'm bored.

R: What do you feel is your greatest achievement in terms of playing a piece?

Ben: 'Enemy', I think it was my best piece yet. I'd like to learn 'Megalovania', too. I learned a bit of it.

R: How would you learn it on your own?

Ben: I would search for it and look for a tutorial on YouTube, not with Synaesthesia, but if someone talked me through it.

R: Are there any strategies that we've used that you think haven't been helpful for you?



Ben: No. I think I could practise more maybe.

R: Do you feel that you know what to practise when you are on your own?

Ben: Sometimes I don't know how to practise, so I just play some scales. I've tried to make flashcards to practise sight-reading. When I'm tired my mind changes things up, and I see notes and I think they are different to what they are. I think I need to get better at that.

R: Have you ever started with finding the first note and then just watch whether it goes up or down?

Ben: Yes, but what's on the page just doesn't click with me. I don't know why.

R: Do you think it would be good if we talked through how to practise more at lessons, like getting more specific about how to do it. What are your greatest strengths?

Ben: I can improvise well, listen to a piece and try to play it. Not perfectly, but I can get round what it sounds like.

R: Do you think learning pieces without music is better for you?

Ben: We've played some pieces without any music and I think it's gone well.

R: Is it better hands together or hands separately?

Ben: I feel like I need to know what each hand has to do separately before I put them together.

Ben's responses indicate to me that he is aware of some of his strengths, perseverance and good aural recall, and I think it is positive that he recognises that more practice might help him to improve. We can also use these reflections to consider how to prepare him more effectively for practice times in future. One way which we did this was to schedule mini guided practices throughout a week, especially if he was at the beginning stages of learning a piece.

## **RS6.3.2 Alex**

### ***RS6.3.2.1 Introduction and praise***

From my observations, Alex demonstrated strength in the areas of problem-solving, visuospatial strengths, pattern recognition, resilience and perseverance. He displayed confidence and excellent verbal communication skills. Here are two examples with Alex where I pause to praise him and point out the positive aspects of his playing and the effort involved in playing hands together in Train Ride (Video excerpts are not available to readers due to GDPR and participant confidentiality) and for his sight-reading skills and the effort he put forth to plan and organise his fingering (Video excerpts are not available to readers due to GDPR and participant confidentiality). At other times, I praised Alex for remembering major or minor chord formations, for concentration and for his strength at recognising patterns.

### ***RS6.3.2.2 Self-reflection leading to strengths-based strategies***

I encouraged him to self-reflect and invited him to share which strategies he felt we were using were working well (Video excerpts are not available to readers due to GDPR and participant confidentiality). In my reflective journal entry, I described some interesting insights from this conversation. He recognised that simple sight-reading was achievable, but that more complex sight-reading needed some alternative strategies. On the topic of how he learned that piece, using aural skills, I reminded him of a challenge I had given him earlier in the lesson, which was to learn 'Musette in D' through demonstration and aural recall. His reaction on seeing the score was somewhat telling, as he described it looking more complicated than it was to play it, and he removed the score as he clearly did not want to be using notation.

One of these pieces was 'He's a Pirate' which was a piece which he was keen to learn in late 2019. He decided to write some note names on the score, and learned the melody line, albeit with his left hand (Video excerpts are not available to readers due to GDPR and participant confidentiality). This was a strategy that he used occasionally in the earlier days of learning music (2018-2020). He would learn the melody line in his left hand and then transfer it to his right hand. Alex is right handed, but both he and his mother, who is also dyslexic, mention that they are able to do specific tasks better with specific hands. For

example, I wrote in my reflective notes that his mum prefers to paint with her left hand, even though she is right-handed also. I chose not to challenge this at that time, but waited to see how he would approach this when he wanted to play hands together. He chose to take a break after learning the melody, although he did return to the piece much later to add the chords to it. He played it with his hands together in the medley of pirate songs which he developed (See Reflective Statement 4). I think it can be a good step to take a break from something that is challenging and return to it at another time. Wilmot et al. (2023) suggest that being able to have breaks may be beneficial for the mental well-being of dyslexic students. Energy and concentration levels may need renewing and the break from the piece can give them a chance to do that.

He also mentioned 'We will sail together', one of a series of sea shanties from the Sea of Thieves<sup>30</sup> video games. This was adapted by reading the melody line and adding simple chords; he performs it here (Video excerpts are not available to readers due to GDPR and participant confidentiality). This was a piece that seemed to give him great pride to be able to play as he felt successful in playing hands together and using the sustain pedal.

### ***RS6.3.2.3 Adaptive notation strategies***

At other times, I praised Alex for remembering major or minor chord formations, for concentration and for his strength at recognising patterns. Often, when Alex would play a piece, there were a number of areas which needed correction, but I tried to focus on what he had done well first. In choosing repertoire, we would adapt pieces which might have complex or challenging sections so that they were able to master them and achieve their goal. Alex referred to this as 'editing pieces' in our discussion of what was working well. One example of an adaptation that we used included simplifying and enlarging score parts from the original 'Jurassic World'; we adapted it to a section of the right hand first and then to this version. After a period of time, Alex was able to play it hands together (Video excerpts are not available to readers due to GDPR and participant confidentiality). There is some instability in the rhythm of the piece. This video was recorded in 2019 and although we had

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<sup>30</sup> <https://www.seaofthieves.com/>

done a substantial amount of pulse and rhythm work, it was an area of challenge and one that we continued to develop.

Based on what I had observed in terms of visuospatial skills, I invited him to use Figurenotes<sup>31</sup> alternative notation system as the use of colours and shapes might reduce the processing burden of sight-reading. I provided him with a key to the system. What we found was that he understood the system of colours and shapes, intuitively and quickly read 'Ode to Joy' which might be more difficult in standard notation. After a few lessons using Figurenotes notation, he sight-read 'Au Clair de la Lune' for the first time (Video excerpts are not available to readers due to GDPR and participant confidentiality). He does well to keep the pulse stable. Whilst the use of the pedal was not recommended, I believe that it gave him a sense of security to use it as it sustained the previous note whilst he was looking for the next one. However, his thoughts and feelings on using Figurenotes are discussed in Section SR6.3.2.5 of this reflective statement. Sensitivity to feelings of stigma or 'otherness' which might arise when alternative notation or adaptations are used is an area which I have learned to become more aware of since beginning this research.

#### ***RS6.3.2.4 The use of problem-solving games to assess sight-reading and musical terms knowledge***

Particularly during the period of lockdown when we could not meet face-to-face, I tried to include a short game in each lesson. In this game, Elements Among Us (Video excerpts are not available to readers due to GDPR and participant confidentiality), his knowledge of musical terms was tested. He was very proud to report that he had come fourth in a class of 30 students in a music test, and I praised him for his achievement at school and for being 'one of the highest people in my class'. Responses in the game indicated that it was good to have some review of the terms; however, it is possible that the emphasis on text and some writing may have been a challenge. We used musical terms when practising scales as well so that the student had the opportunity to hear them and to apply them to their playing in a practical way. In our lessons, I tried to avoid conveying any sense of blame when there were difficulties and tried not to draw attention to areas of challenge, but to work on them with the student in a supportive manner. I chose games that I thought he would find enjoyable,

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<sup>31</sup> <https://drakemusicscotland.org/figurenotes/>

but which also used problem-solving strengths as a way of buffering the challenges, such as this ‘Virtual escape room’ where you had to choose clues, problem-solve and perform a sight-reading task to progress (Video excerpts are not available to readers due to GDPR and participant confidentiality).

### ***RS6.3.2.5 Later self-reflection***

In 2022 (S2 Transcript 2022), I asked him to reflect again on the following aspects of our lessons:

R: What are the best approaches for you in learning music?

Alex: Listening to the music first, or having you play it.

R: If you had to do it completely on your own, what would you do?

Alex: Write the note names in, at least at the beginning.

R: Do you remember you used Figurenotes, but you decided that you preferred to practise with standard notation?

Alex: Let’s say I’m with someone else and I want to learn a piece of music, but I don’t know how to read notes like that. It’s better that I know how to use the regular notes.

R: What has helped you to learn?

S2: Listening to the song a few times, so I know the pace. Just trying and failing until I get it right.

R: How do you know if you’ve got it right?

S2: I use recordings, we practise together.

R: What things other than recording have helped you?

S2: The composing app (Flat.io) that was fun.

R: Do you have any suggestions for how to make our lessons better?

S2: You make it interesting, I don't like to be bored. I like music and I'm good at it. We do different activities and that is good, not just playing scales but composing, learning new pieces, improvising. I think I'm good at improvising on the piano.

From these responses and from discussion in lessons, I was further able to develop my profile of Alex, and this helped to inform future lesson planning. I learned that Alex was not comfortable using Figurenotes but did use other score adaptations with ease. He understood there was a need for persistence, or 'just trying and failing until I get it right,' if he wanted to learn. The use of technology was only mentioned in relation to recordings and notation software which we had used for composing.

### *RS6.4 Conclusion*

I viewed this knowledge as foundational building blocks for the future with the desire that the students would know that their input allowed for enhanced collaboration between us. Their thoughts and feelings were important to me. In these previous sections, I have demonstrated evidence that I praised the students for specific strengths which I observed, for effort in the process and sought to develop a better understanding of each student. I prioritised their voices by encouraging them to reflect on their learning and to consider what had worked well and why. I considered some of the components of 'positive niche instruction' (Armstrong, 2012, p. 14): an awareness of students' strengths, an environment that was comfortable for them, the use of adapted notation and multiple means of representation, the use of strategies and repertoire which were chosen based on students' strengths and the development of expertise built from collaborating with the students and trialling resources and varied approaches. As I made the transition from a deficit-based mindset to a strengths-focused approach, it enabled me to value the students as individuals with diverse and unique profiles. Being informed by students' self-reflections as well as my observations enabled me to make effective use of the questions from the UDL model for future lesson planning by considering students' engagement, how to present material and how students might express themselves or respond. This has had positive implications for the ways in which I taught other students as well, by considering their strengths and being collaborative rather than having a top-down approach to my teaching.

## Chapter 9 FINDINGS FROM PARENT INTERVIEWS

### *9.1 Introduction*

Parental support is an important aspect of a student's instrumental music education (Creech, 2010; Creech & Hallam, 2010; Uptis et al., 2017) and has been identified as one of the social factors affecting students' motivation and self-regulatory behaviours (McPherson & Renwick, 2011). Positive parental roles might include observing, guiding, teaching, encouraging, offering support and praise; conversely, overbearing parents with unrealistic expectations without considering a student's feelings or aspirations might have a negative effect (Uptis et al. 2017). Parental support is seen as a protective factor for children with dyslexia that supports their development of resilience (Catts & Petscher, 2022; Haft et al., 2016; Wilmot et al., 2023).

### *9.2 Context and participants*

Although research on parental roles with dyslexic students and genetic, emotional, behavioural and educational risk factors have been examined by the literature, the role of parents of dyslexic children in the instrumental music education context has not been widely explored. In this research, participants were recruited through my teaching practice as the parents of my dyslexic students (See Appendix G for interview schedule). In addition, of the teachers interviewed for this research, four were mothers of children with dyslexia (Abigail (P5), Rosemary (P14), Hannah (P20), Sally (P21), and one student participant was a father of children with dyslexia (Simon), and their experiences, described during their teacher interviews, add additional insights to the relationship between parents, their children with dyslexia and teachers. Two of the parent participants were from the United States (Sally, Hannah), but the others were based in the UK. All but one of their children had been assessed as dyslexic through formal assessment. As it is a potentially sensitive topic, participants were invited to share their experiences as a parent of a dyslexic child and were reassured that they were not required to discuss anything that might make them feel uncomfortable. The participants have been given pseudonyms in the analysis.

Two participants (Erin and Polly) were mothers of dyslexic students in my teaching practice; these were the only non-musician parents in the study. Four participants were themselves

dyslexic, and in line with anecdotal evidence in the literature, two of these participants discovered they had similar challenges when their child was assessed and diagnosed with dyslexia. The data were analysed and coded using iterative, thematic processes as detailed in Chapter 3; this enabled patterns and themes to emerge. Table 9.1 below shows the pseudonym name of the participants, self-reported dyslexia (D) or dyslexic tendencies (DT), level of music training, location, number of children with dyslexia and the gender of those children.

Participants	D/ DT	Music training	Location	Number of children with dyslexia	Gender of children
Simon	D	Professional	UK	2	M, M
Abigail (P5)	D	Professional	UK	2	M, F
Rosemary (P14)	N/A	Professional	UK	1	F
Erin	D	None	UK	1	M
Polly	N/A	None	UK	1	M
Hannah (P20)	N/A	Professional	US	1	M
Sally (P21)	D	Professional	US	1	M

**Table 9.1 Contextual information about participants**

### *9.3 Findings*

Parental support may be influenced by several factors. Several themes emerged from analysis of the data, which are briefly noted here before being further detailed in subsequent sections. Findings suggest that dyslexic parents may be impacted by their past experiences and perspectives of dyslexia, but also perceive benefits to their role as a person with dyslexia and as a parent to a child with dyslexia (9.3.1). A musically trained parent with dyslexia reported the benefits of using the Suzuki method as a means of developing music learning based on a focus on aural skills and repetition, which was suited to their mode of learning (9.3.2.1). Some musically trained parents reported that they assumed the role of teacher for their dyslexic students, feeling that they had specific insight to the student’s learning process (9.3.2.2). Parents took a role as mediator between the student and their school and teachers, with mothers taking this role predominantly (9.3.4). Parents also had to investigate assessment needs and communicate with schools about behavioural difficulties, best practice in teaching and learning approaches and the use of reasonable



adjustments or accommodations. Findings suggest that positive relationships and communication between the teacher and parent may be mutually beneficial (9.4). Parents reported great pride in their child's achievements and were aware of the determination and effort invested by their children in pursuing their goals. Findings suggest that parents also sought to promote positive role models with dyslexia (9.5).

### **9.3.1 Dyslexic parents' experiences and perspectives**

For those parents who were dyslexic or had dyslexic tendencies, their own school experiences and music learning journeys contributed significantly to their view of dyslexia, of themselves and that of their child with dyslexia. Dyslexic parents recognised that they had been labelled, stigmatised or had hidden their difficulties in order to cope. For some, this helped them to identify strategies that they recognised that their children were also using. Conversely, this suggests that parents with dyslexia may assume that a strategy will work for their child because it worked for them, only to discover that it is not effective for their child because of the complex nature of interacting effects of dyslexia on each individual.

#### **9.3.1.1 Impact on dyslexic parents**

A complex mixture of relief and sadness were some of the emotions identified when their children were diagnosed. Simon recalled how it felt to be labelled and misunderstood during his own educational experiences when his two children were diagnosed as dyslexic. Previously undiagnosed, Sally described masking her difficulties in school and noticing that her son had similar traits:

I recognised it in my son. I thought 'You know, I'm probably dyslexic'. He had the same symptoms. He had enormous trouble reading text and would mis-read. His writing skills were bad as well ... I was reading sixth grade [Primary school Year 6 in the UK educational system] level reading material and just not telling anybody.  
(Sally)

However, despite their own negative experiences and without minimising the negative consequences, another dyslexic parent had an awareness of positive aspects of her child's diagnosis, stating:

You feel stupid because you can't read. It's so difficult. You can't make out big words or understand what was going on. I don't think my friends knew because I was quite clever. But you lose a lot of confidence ... I was sad for Alex because I know how debilitating it can be, but I wasn't that upset because I think it can teach you skills that a lot of other people don't have (Erin).

However, societal stigma did affect parents' view of their identity, according to Sally, who stated that 'Both as a parent and as a dyslexic person, I have seen the kind of stonewalling, labelling and stereotyping that occurs when a person declares that they are dyslexic'. In conclusion, dyslexic parents might recognise their own dyslexic tendencies when observing their children encounter similar difficulties. Reactions and emotions might vary from relief to shame to an awareness of how their difficulties were masked to manage challenging situations.

#### ***9.3.1.2 Perceived advantages to being a dyslexic parent***

A dyslexic parent mentioned how important it is to encourage a growth mindset in their dyslexic children: 'Encouragement is one of the main things, and empathy, and to say, "Mistakes are fine, they help us to learn"' (Simon). This participant perceived an advantage over his non-dyslexic partner when it came to understanding and empathising with their dyslexic children. However, he noted that his partner was the first to recognise signs of dyslexia in their children. Some dyslexic parents referred to the non-dyslexic spouse as the 'investigator'; this may be because a large amount of information about dyslexia is text-based and the non-dyslexic spouse might feel more confident about their reading and comprehension skills. Confirming a perceived advantage in terms of empathy, one dyslexic mother described that being dyslexic 'helps as I understand him and can help him navigate life, be more patient and, I guess, less frustrated' (Erin). Shared experiences and empathy with their difficulties in school were seen as advantages for parents with dyslexia in their relationship with their dyslexic child.

#### ***9.3.1.3 Similar compensatory mechanisms***

Dyslexic parents with musical learning experience noted similar compensatory mechanisms with their dyslexic children in their approaches to learning music, including overlearning and a strong memory. A dyslexic parent with musical training recognised challenges in learning

scales similar to those of their dyslexic child, stating that 'the level of overlearning that I had to do was just quite phenomenal' and she saw this mirrored in her daughter who required several months of practise to learn one scale. A dyslexic parent who is a professional musician describes how their children used coping mechanisms like their own with sight-reading, stating that 'They are very similar in learning to me as they learn by listening' (Simon). Another dyslexic parent emphasised her strong memory as a way of learning music from their time in school, stating:

I'm sure you've seen that with Alex as well. You kind of fake your way through life. When I learned to read music, I couldn't make out the notes, I just memorised the song. Things like that were my coping mechanisms. (Erin)

In summary, parents with dyslexia might perceive that they have a greater understanding, empathy and patience with their dyslexic children based on shared experiences and similarities in their use of coping mechanisms. Some dyslexic parents identified the same challenges in learning music as their dyslexic children and were able to highlight strategies such as overlearning, strong memory, aural skills and methods which were suited to their strengths. This suggests that parental communication with the teacher may provide useful information related to how their child learns.

### **9.3.2 Musically trained parents**

Parents reported music learning methods which they recognised were beneficial to dyslexic students. Some parents reported that they took the role of teaching their child and other ways in which they involved their child in music. The Suzuki method has been a suggested method for dyslexic students based on parental involvement in observing lessons, collaborating in the learning process and nurturing the child (Macmillan, 2004; Vance, 2004).

#### **9.3.2.1 Suzuki method**

A musically trained parent noted the benefits of the Suzuki method for dyslexic students based on an emphasis on aural learning in accordance with students' music learning preferences. Simon stated:

That's why the Suzuki method really suited me. It was just listening to the sounds and reproducing it. That is how I learn. At some point, you have to start learning to read notations and that starts quite late in Suzuki. (Simon)

This suggests that these parents may be aware of positive approaches and can reframe their expectations, for example, in regard to the point at which notation is dealt with.

### **9.3.2.2 Parents as teachers**

Three of the mothers were music teachers who also gave instrumental lessons to their own children. They assumed the role of 'tutor' in this case as they felt they had teaching expertise and a knowledge of their child and the child's needs. Hannah stated that 'As a mother, I think I could just connect what he needed with creative ways to help him, and to make things easier'. Hannah described how she helped her son learn to play the piano:

If you show [son] how to do something, he can do it. He's tactile. A template helps him. When I was teaching him piano, I would put my hands on his hands, just so he could feel how my fingers were moving. (Hannah)

Hannah then passed this information on to her son's piano teacher. Similar to strategies for visually impaired students discussed in Chapter 2, this teaching style might be difficult to manage in another context given the sensitivities around safeguarding and the use of touch in a teaching setting. Rosemary considered that it might be better for her daughter to experience working with another teacher, stating that:

I was her instrumental teacher. When she got to a certain age, I thought someone else should do this, it's not good for it all to be with me. She had three other teachers and didn't want to stay with any of them. So, we just resumed our relationship and that was it. (Rosemary)

This might suggest that the other teachers were not adequately equipped to understand her needs as a student with dyslexia, whether they were aware of an assessment or not.

Hannah also describes how she would provide her son with methods of organisation to use in music learning, but also in other areas of life:

I showed [son] how I organise things when he moved to university. I told him ‘You can do things however you want, but this is the system that I use and I find it really helpful’, and he adapted it to suit him. It was helpful to give that template of organisation, but to allow him to find his own way of doing things. (Hannah)

One mother described trialling different method books and strategies which likely informed their teaching with other dyslexic students (Abigail). Parents with music training might be an asset to their children with dyslexia as they may be aware of a variety of method books, repertoire and approaches and may also provide support during practice sessions.

### **9.3.3 Communication with the teacher**

Parental communication with the instrumental teacher is important to allow the teacher to develop knowledge of the student so that they can work with them effectively and avoid asking them to do things which might cause them shame or embarrassment. Sharing the assessment report may be a valuable way for the teacher to begin to understand the student’s particular profile.

#### ***9.3.3.1 Sharing assessment profiles***

Assessment profiles give a narrative results summary which describes the student’s general ability, processing speed, working memory and reading/writing abilities along with suggestions for working with the student. The British Dyslexia Association<sup>32</sup> quotes an assessment with a specialist teacher at £660 or an assessment with a psychologist at £840 as of April 2024 and indicates that assessors are booked for months in advance. This might indicate that families may need to wait some time before an assessment can be made. Without a formal assessment and diagnosis, parents noted that their children would not be eligible for reasonable adjustments/accommodations in school or exam settings. Simon noted that ‘the cost of assessment is expensive’ as well as ‘the cost of extra tuition’, indicating potential inequality for families in low socioeconomic circumstances. Hannah confirmed this and stated that for her son to enter university and qualify for extra support, they had to pay for a full report at considerable expense. Oglethorpe (2008) notes that the assessment report may contain valuable information for an instrumental teacher, referring

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<sup>32</sup> British Dyslexia Association ‘Diagnostic Assessments for Dyslexia or Dyscalculia’ Retrieved on September 4, 2024 from <https://www.bdadyslexia.org.uk/services/assessments/diagnostic-assessments/overview-2>

to parents as the 'vital link' between the child, the school and other professionals in sharing this information (p. 14). Regarding the student's response to assessment, Polly stated:

Ben seemed quite unperturbed by the assessment and was interested in the results. He was reassured that he now understood why he had found certain areas of his schooling difficult and was especially pleased that having dyslexia was different from being 'stupid' or 'slow' which is how he had often regarded himself before he was assessed as having dyslexia. (Polly)

The assessment report included useful information relating to pacing, cognitive and working memory load, all of which would be helpful for the instrumental teacher's lesson planning and delivery. Although an assessment may be useful, parents noted the cost of assessment as a limiting factor to receiving an educational plan and reasonable adjustments/accommodations. It is possible that parents may not realise the relevance of assessments to music learning and that instrumental teachers without dyslexia-specific knowledge might not be aware of their significance for informing teaching approaches. However, parents can play a valuable role in supporting the work of the instrumental teacher through sharing the assessment report.

#### ***9.3.3.2 Observing the individual profiles of strengths and weaknesses***

A parent of a student in my teaching practice described their son as a strong problem solver who was easily able to grasp visual explanations of music:

I guess that's why music is nice because it's visual ... He likes patterns and order. As a child, everything had to be neat and lined up. Piano is very much like that. Mathematical, almost. He likes problem solving, working things out. I think he does struggle with rhythm a bit. (Erin)

Even the use of compensatory mechanisms, such as strong aural skills and memory, did not always prevent frustration in other areas like processing or coordination when attempting to sight-read music. Despite noting strengths with memorisation and aural skills, one parent described the challenges and resulting tension they and their son faced:

[Son's name] has always struggled reading music. He can read one line of music, no problem. But when he had to read two clefs at the piano and then add the tactile dimension, he was the most frustrated that I have ever seen him. He would throw things, and get so frustrated with himself. Now, he's better, but it takes him so long to figure it out. (Hannah)

However, even though coordination and processing appeared to be causing difficulties, Hannah reported strengths in areas such as resilience, exceptional aural memory and transposition, particularly when score modifications like enlargement were used:

[The teacher] said that he was one of her favourite students because he is such a hard worker, persevering. She did ear training with him. His challenges were sight-reading. If he went through it twice, he had it memorised. Reading the piece is the hardest. Transposition is easy for him. We would enlarge scores for him. (Hannah)

Co-occurring conditions related to concentration were noted by Polly, who stated:

Ben undoubtedly has a short attention span and he is very easily distracted. He seems to learn best through what he hears, rather than visually ... Ben is extremely practical and gains great satisfaction from completing a physical task such as constructing a bookcase or making a model. He has particular strengths in IT, science, maths and technology-based subjects. (Polly)

Rosemary's daughter was undiagnosed until she was in her third year of conservatoire. She was able to achieve a good level of sight-reading after years of practise, with her mother as her teacher. Rosemary stated that 'I've made a note that the reading was not that good [at the beginning], but by the time she got up to Grade five and six, she got quite good'.

Rosemary's strategies to support her daughter's sight-reading included a consistent focus on recognising intervals; for example, 'noticing how fourths and fifths look different'. This may have been effective because it was more of a visual strategy or focus on the interval shapes rather than a processing of each distinct note.

Challenges were noted across varying student profile patterns and at times the parents observed that their children had poor tolerance for frustration. Parents observed that their

children's self-esteem and confidence were affected in a variety of ways by being diagnosed and in relation to the dyslexic child's self-belief when practising and performing. They recognised their child's strengths, including problem-solving, strong aural memory and memorisation, in addition to resilience and the ability to develop musical skills, like sight-reading, over time. This is valuable for teachers in recognising the need for balancing expectations and quality communication with parents to avoid tensions or additional pressure.

#### ***9.3.3.3 Parental role in identifying the effects of low self-esteem***

Parents recognised that issues of self-esteem affected their dyslexic child's learning in general, and in music this was sometimes seen in difficulties with practising and confidence to perform. A combination of self-esteem problems and difficulties at the piano might create possible 'tensions' for parents and their children when it comes time to practise (Abigail). Hannah concurred with this, referring to how 'dyslexia usually goes hand in hand with a lack of confidence and that 'it doesn't take much for [son's] confidence to snap if he is doing something like piano' (Hannah). Rosemary related how her daughter has a beautiful singing voice, but that following her diagnosis with dyslexia, she lost the confidence to perform. This has important implications for family and instrumental teachers in terms of sensitivity and utilising approaches which include encouragement and positive feedback.

#### **9.3.4 Parental communication with schools and classroom teachers and implications for the relationship with the instrumental teacher**

In this study, parents referred to a variety of experiences relating to their communication with their child's school and teachers. This was seen in the process of getting the school to acknowledge the student's difficulties, managing behavioural issues and advocating for dyslexic friendly strategies to be incorporated into the student's learning at school.

##### ***9.3.4.1 Pursuing assessment when schools are reluctant***

In the case of the mother of a dyslexic piano student in my teaching practice, Polly recognised her son's reading difficulties, but had to tenaciously pursue assessment:

We flagged this up with the school several times but unfortunately no action was taken until a very cursory and inconclusive assessment was carried out during the final weeks of Year 6 when he was nearly 11 years old. When he started at secondary



school, we once again raised the issue. This time a more detailed and in-depth assessment was performed almost immediately, and the results showed clearly that Ben has moderate dyslexia. (Polly)

This assessment contained a number of important points relating to pacing and manner of lesson delivery and Ben's needs in the learning context. It was a valuable asset when planning lessons and to my approach in teaching Ben.

#### ***9.3.4.2 Managing behavioural difficulties and relating them to dyslexia***

One participant described how the process of communicating with school caused a great deal of frustration, particularly when the student began exhibiting behavioural issues:

Alex hates school and finds it hard to sit still and concentrate and then gets into trouble quickly whenever he isn't coping. I have to keep reminding them [the school teachers] that he has dyslexia. They don't seem to be able to pick up his struggling as his 'dyslexia' and then his behaviour gets worse because he is struggling and their solution is to exclude him instead of helping. (Erin)

These findings indicate the importance of parental and teacher communication in determining the root causes of a student's behaviour, whether that be that they are deflecting from their difficulties, anxious about events at school or simply have not taken the time to practise. The parental role in managing this behaviour, attempting to establish the cause and communicating that to the teacher, plays an important part in the development of the teacher's understanding of both the parents' experiences but also a sensitivity to the causes of the student's behaviour.

#### ***9.3.4.3 Ensuring the use of dyslexia-friendly strategies***

Parents referred to a need for teachers to learn how dyslexia may affect their children and to employ specific strategies in their approach. Abigail described communicating with a teacher about her daughter's problems with organisation, stating that 'I'm going to be very challenging now, you keep telling her she just has to "sort it out" but she ... has got to do more learning and have more teaching in order to be able to do that'.. Hannah confirmed this, stating that her son's greatest difficulty in school was a 'disorganised teacher' and that

some teachers simply did not understand the importance of explicit instructions for dyslexic students; therefore, she had to be quite proactive to achieve support:

I have always advocated for him. I made sure that the teachers knew that he was dyslexic. I had to go to his art teacher, because she did not understand that she was not giving him concrete enough information in order for him to be able to do what she wanted him to do. (Hannah)

Participants related how educational experiences varied across schools and by teacher, and suggested that although there are levels of support they are not always appropriate, and that behavioural and organisational issues are not always considered in the context of a learning difficulty.

#### ***9.3.4.4 Ensuring the application of reasonable adjustments and accommodations***

As part of their advocacy role, parents face a number of challenges in negotiating for correctly applied reasonable adjustments as they are also mindful of preventing situations where the student feels stigmatised. Polly described her son's school:

I think Ben is moderately well supported at school but not all the teachers are fully understanding of his dyslexia and how it affects his work or the extra time he may need for some tasks. The use of a laptop in some lessons has been helpful but I think Ben also finds this somewhat stigmatising as he has to collect it before each of the relevant lessons and recently he seems more keen to try to complete tasks on paper. (Polly)

It is understandable that students also struggle when teachers and schools lack an understanding of the application of reasonable adjustments/accommodations.

#### **9.3.5 Positive communication with teachers**

A lack of dyslexia knowledge is a barrier to effectiveness for many instrumental teachers (Oglethorpe, 2008; Ganschow et al., 1994; Nelson & Hourigan, 2016), and a major source of motivation for my research. As has been demonstrated within my data, instrumental teachers can make a positive difference to their dyslexic students' learning. Simon recalled a

teacher's kindness and that she 'would offer extra help after classes'. I was encouraged by this response from Polly in relation to my student, Ben:

Our understanding of Ben's dyslexia, the effects that it has on his learning and above all the range of techniques possible to help him learn has benefited hugely from his piano teacher. We have greatly valued the individual tailored approach taken with Ben. His resulting progress fills him with satisfaction and helps his confidence. It also has the effect of teaching us new things in our understanding of Ben, how his dyslexia affects his learning and how his abilities may be maximised. (Polly)

This suggests that teachers might influence and benefit the parents, as well as the student, in understanding the way that the child learns, or recognising their potential for learning. Music may well be the area in which a dyslexic student excels and finds an important outlet. If the instrumental teacher can highlight the student's abilities, it may not just promote their self-confidence but also change family members' perceptions of their capabilities.

### **9.3.6 Pride in their child's achievements and the importance of role models**

Perhaps aware of the immense hurdles that some dyslexic students must face, parents described their pride in their children's achievements. Parents recognised the tremendous amount of effort that went into students' achievements whether that was a recital, graded music exams or degree in higher education (Simon, Rosemary, Abigail, Hannah, Erin, Polly).

She learned the piano to Grade Eight [ABRSM], singing and cello. She went to [conservatoire] and read music. She was always very diligent, and she got a 2:1 degree so she didn't do badly. But she had to do a lot more work than everybody else. (Rosemary)

Erin noted Alex's sense of pride in his ability to play the piano, stating:

When he [Alex] sees some of the girls playing piano in class, he says 'Well, I can do so much better than that'. He likes boasting about it ... He is loving piano and is getting the affirmation that he needs and that means he is engaged with it. It's something he enjoys and feels well doing. (Erin)

Focusing on positive aspects was important for one mother, who stated that 'I was never ashamed at all to say that he has dyslexia. He can do so many things' (Hannah). Parents also indicated further approaches which were effective in helping their children to succeed at music learning and in other areas of life. The parents of dyslexic students in my piano teaching practice, Ben and Alex, reflected on how their child's motivation and self-determination were key to maintaining their engagement in learning:

He [Alex] is good with discipline and routine, when he knows the boundary, he will keep it. He likes ownership of things, feeling that he can make decisions. As long as he is interested, he will be engaged. Anything visual, or technical like recording (he's very vain), then he really likes it. He's very proud of what he has accomplished so far. He works very hard and is very persistent. He doesn't practise [piano] a lot, but he does it every day without complaint. (Erin)

I think it helps Ben when someone is 'on his wavelength' and able to communicate with him in such a way that his confidence is enhanced and he is able to achieve. If he is taught in small chunks he is more able to carry out instructions, retain information and achieve manageable goals. (Polly)

These statements also indicate that parents are aware of the strengths that their children with dyslexia possess. Parents emphasised the importance of positive role models for their children as a means of motivation and encouragement (Abigail, Erin). However, it is possible that students may also compare themselves negatively to others who are successful when they find themselves struggling.

One parent mentioned non-music role models:

Richard Branson, Jamie Oliver, others. They had to learn how to keep up and make plans to succeed. I've seen that in Alex, he has to compensate and do that extra bit of work to keep up. I think it helps to motivate you further, but I wouldn't wish it [dyslexia] on anybody. You have to look at the positives because you can't get away from it. (Erin)

Parental support roles include offering praise and encouragement for efforts and celebrating the achievements of their dyslexic children. To avoid the perception of being condescended to or a feeling of unfair comparison, students might benefit from a balance of quality information about dyslexia and the meaning of 'success' as well as a focus on other factors that might influence good outcomes. These factors include parental and community support. With the promotion and discussion of positive dyslexic role models in music and in other areas, parents might encourage their children to believe that barriers can be overcome with persistent effort and appropriate support.

#### *9.4 Summary of findings*

- Dyslexic parents might recognise similar challenges and coping strategies as seen in their dyslexic children. These may serve as reminders of past negative educational experiences with an emotional impact on the parent. This suggests a need for sensitivity and tact on the part of the music teacher who may also need to consider using either verbal or short written forms of communication with dyslexic parents.
- Some parents with dyslexia felt that they had an advantage of empathic understanding with their dyslexic children. However, this suggests that a parent with dyslexia might inadvertently assume the same strategies that worked for them will work for their child with dyslexia, although individual profiles of dyslexia, even within families, may be very different and require different approaches.
- Musically trained parents were able to support their child with dyslexia, by taking the role of tutor or by supporting guided practice sessions, although personality differences or the child's unwillingness to be taught by the parent might be limiting factors. The benefits of the Suzuki method for children with dyslexia, with an initial focus on aural training and later development of notation, were recognised by a father with dyslexia who had been trained using the method.
- The cost of assessment, the extent to which parents believe an assessment is relevant for the music and their willingness to share reports can be limiting factors to the teacher's access to relevant information. Findings suggest that in sharing their

child's assessment profiles, parents might enhance the instrumental music teachers' ability to support their child.

- Parents' knowledge of their child, including their strengths and weaknesses profile, in conjunction with assessment information, is an asset for the teacher in planning and delivering lessons more effectively for their child. Areas of sensitivity related to the individual child's identity and self-esteem or behavioural patterns may help the teacher to develop an empathic understanding of their needs.
- Findings suggest that support through schools might only be obtained through persistent advocacy on the part of parents. Poor communication within schools meant that teachers were not always aware of the students' challenges, and behavioural challenges were not viewed consistently through the lens of dyslexia.
- Additional stress and burdens were placed on parents as they had to negotiate with schools to ensure that teachers understood their child's needs, used appropriate strategies and established that reasonable adjustments were in place and used effectively for their child.
- Findings suggest that positive communication between parents and the teacher might enhance familial perceptions of dyslexia and promote their understanding of their child's capabilities, thus supporting the student's self-confidence.
- Parents of children with dyslexia reported a great sense of pride in their child's achievements, particularly considering the effort and persistence a child with dyslexia may invest in attaining their goals.
- Parents felt that positive role models with dyslexia served to motivate and encourage their children that limitations might be overcome with persistent effort.

## *9.5 Conclusion*

Parental roles have the potential to be strong protective factors in the development of resilience in dyslexic children. These findings correlate to research that indicates that low socioeconomic status is a risk factor, that it tends to be mothers who identify, advocate for and tutor their children and who tend to report concerns regarding their child's internalising

behaviours, though it is acknowledged that only one father participated in this research, so further research is needed in this area concerning music learning. Mothers also reported stress and frustration in their roles as communicators or negotiators with teachers and schools. By sharing assessment information and relevant communication about the child, parents might develop a mutually beneficial partnership with instrumental music and/or other teachers. This may also give insight to teachers as to how they perceive students' behavioural issues and how to manage them. Instrumental teachers are privileged to be able to focus on individual students in one-to-one, or even small group lessons and may feel more able to tailor their approach and to develop a mutually supportive relationship with parents.

These findings suggest that careful thought and sensitivity should be given as to how instrumental teachers communicate with parents, particularly dyslexic parents, by avoiding dense terminology or long emails. Similarly, rather than adding to the advocacy burden or anxiety the parent may be feeling about their dyslexic child, instrumental teachers may be able to encourage them as their student's capabilities, effort and strengths become evident during music lessons. This may enable the parent to view the dyslexic child differently and become more aware of how their potential might be maximised in other areas. As teachers recognise the internalising and externalising behaviours that dyslexic students may exhibit at times, open communication with parents might enable greater empathy and understanding of the root causes and management practices. Communication with teachers is an important aspect of parental support; the instrumental teacher might benefit from the sharing of the assessment report, parental observations about the student's profile, self-esteem and parents' challenges in communicating with schools and classroom teachers. Positive communication can benefit all stakeholders in the process.

## **Chapter 10 FINDINGS FROM STUDENT INTERVIEWS**

### *10.1 Introduction*

Dyslexic students' music learning experiences, feelings and attitudes about dyslexia, including their views on teachers and educational environments, represent their reality through which our understanding of their needs can be developed. As Cook-Sather (2006) states, the term 'voice' implies 'having a legitimate perspective and opinion, being present and taking part, and/or having an active role' (p. 362). Instead of passive participation in research, 'learner voice' research is described as 'considering the perspectives and ideas of learners, respecting what everyone has to say, taking risks, sharing and listening, engaging and working together in partnership' (Walker, 2008, p. 5). Different levels of learner engagement in learner voice research include 'informing, consulting, involving, collaborating and empowering' indicating a move from mere participation to 'learner control' (Rudd et al., 2006, p. 13) with the aim of the student bringing about transformational change to their own learning process. This perspective has the benefit of providing a new understanding which can help teachers, and parents, support learners. The perspectives of teachers (Chapters 6-8) and parents of dyslexic children (Chapter 9) have been examined previously in this thesis; in this chapter, the focus is on the dyslexic music student voice.

### *10.2 Methods*

Music learning experiences from multiple age and vantage points (beginner instrumental to higher education) might enable an understanding of how individual dyslexic students view specific elements of music learning, their perspectives on how dyslexia may affect them, beneficial learning experiences and also their views on characteristics of effective teachers and teaching practices. The following sections describe the participant recruitment (10.2.1), data collection (10.2.2) and data analysis procedures (10.2.3).

#### **10.2.1 Participant recruitment**

Inclusion criteria extended to those with lived experiences of music lessons as a dyslexic student. Participants were recruited from the British Dyslexia Association music committee mailing list, by word of mouth, through Facebook groups relating to music and/or dyslexia



and through my piano teaching practice. Potential participants (and, if appropriate, their parents) were provided with information forms and the opportunity to ask questions about the research project in advance prior to signing informed consent forms. Nineteen dyslexic participants who had experiences as music students, in addition to two dyslexic students in my piano teaching practice (Alex and Ben), were interviewed in order to collect data.

### **10.2.2 Data collection**

Data collection took place through semi-structured interviews with 19 participants, and interviews and reflective observations of lessons with my two dyslexic pupils, Alex and Ben (See Chapter 3 for full details of methods). Participants were encouraged to speak about their experiences to highlight the issues that they felt were most important in relation to each question. Participants were offered the opportunity to review their transcripts. All participants were assured anonymity through the use of a pseudonym. Participants, and parents of minor children, were provided with information sheets which detailed the processes of data collection. They were offered an opportunity to discuss any concerns they might have and were provided with a consent form. In addition to interviews, data was collected from feedback which occurred naturally in the course of the lessons with my two dyslexic students Ben and Alex, as well as these students' reflections on their learning process. Comments made by the two students during lessons were noted in my reflective journal on a regular basis, both as a form of data collection, and to support my own reflection and teaching development so that the findings might be embedded in my teaching practices. The aim of this study was to understand students' perspectives on dyslexia, the effectiveness of specific strategies used in the lessons, their perspectives on how they learn music and any positive or negative learning experiences. Students were also encouraged to consider whether or not their preferred strategies empowered them to learn music effectively on their own.

The following table (Table 10.1) introduces the participants, their age range, instrument and level of proficiency.

Participant	Age	Instrument	Level on instrument
Aaron	Adult	Brass	Advanced
Laura	Adult	Guitar, piano	Advanced
Ned	Higher education	Vocal	Advanced
Rose	Higher education	Vocal, piano, cello	Advanced
Meg	Secondary school	Vocal	Intermediate
Grace	Higher education	Vocal, piano	Advanced
Katie	Higher education	Vocal, piano, flute	Advanced/ Intermediate/ Beginner
Rory	Secondary school	Guitar, piano	Intermediate/ Beginner
Ruth	Adult	Flute, piano	Advanced
James	Secondary school	Vocal, piano	Advanced
Simon	Adult	Viola	Advanced
Esther	Higher education	Vocal, clarinet	Advanced/ Intermediate
Victoria	Higher education	Vocal, flute	Intermediate
Mel	Adult	Piano, French horn	Advanced
Julie	Higher education	Piano	Advanced
Peter	Adult	Guitar, percussion, piano	Advanced/ Intermediate
Nathan	Adult	Guitar	Advanced
Jane	Higher education	Piano, Guitar	Intermediate
Keith	Adult	Oboe, flute	Advanced
Alex	Secondary school	Piano	Beginner/ Intermediate
Ben	Secondary school	Piano	Beginner/ Intermediate

**Table 10.1 Contextual information about participants**

### **10.2.3 Data analysis**

The data was analysed according to the process of thematic analysis (Braun & Clarke, 2006) which began with the interviews and transcription process as a way to become familiar with the data (this process is described in greater detail in Chapter 3 of this thesis). Reflective observations from my lessons with Alex and Ben were in the form of notes made during the lesson and further reflection made after the lesson, following Gibbs' (1988) reflective model. These reflections enabled me to evaluate actions made in a cyclical manner and to re-evaluate their effectiveness, students' responses and my thoughts and feelings.

## ***10.3 Findings***

The following themes emerged: family environments, familial incidence of dyslexia, motivational factors and attitudes toward assessment, challenges and strategies identified, strengths, positive and negative teacher experiences, the use of technology, points for change and beneficial resources.

### **10.3.1 Family incidence and environment**

Participants described their experiences prior to formal assessment and diagnosis, as well as the motivational factors for beginning the process. Family and educational experiences clearly had an impact on their lives. Ten participants mentioned their mother's support as an important protective factor in their development and well-being:

I was very lucky in that before I started at primary, my mum had already taught me to read, write and do maths. In my assessment, they felt that could have been a protective factor for me in school. (Keith)

James felt that he owed his success in music to the parental support he received from his musician parents, with his father being dyslexic. Only two of the participants had parents with specialist dyslexia training (Meg, Katie), whilst non-specialist but supportive attitudes were identified in other parents.

Sixteen participants reported having family members with dyslexic tendencies or a formal diagnosis of dyslexia. This correlates with research indicating a familial risk for dyslexia.

Grace describes how this created a sense of solidarity: 'For me, it was very important that my mother understood, and was in the same position'. Some participants indicated how the understanding and attitude of their parents linked to advocacy for their needs to be taken into consideration in educational settings. Despite personal experiences and knowledge gained, parents were reported by participants to have encountered barriers when approaching schools for support. Ruth noted how the school tried to blame her parents for her poor reading skills, and Meg's mother raised issues about her struggles with the school but the school decided not to pursue assessment.

Whilst Ben and Alex referred to their families as supportive with parents who were actively involved in their learning, neither set of parents had completed specialist dyslexia training. Their mothers were the main investigators and advocates in their assessment, and the main source of communication with me, in my work with them as their piano teacher.

These findings confirm the results from interviews with parents (Chapter 10) that there is importance in family support, particularly that of mothers, in preparing their dyslexic children for school, gaining knowledge, advocating and supporting them. The results also suggest that schools or teachers may resist parents' attempts to advocate for their children or may blame the parents for student's difficulties. For example, there is potential for an instrumental teacher to place blame on the parents or student for a lack of practice or effort or to grow impatient with the student if they are not aware of dyslexia and how it may affect the student's music learning.

### **10.3.2 Assessment and diagnosis process**

Of the nineteen participants, four were diagnosed with dyslexia as children (under 11 years old), five at secondary school level (12-17 years old) and seven participants received a diagnosis after the age of 18. Three participants were also diagnosed with dyscalculia. Those assessed as children reported fewer negative educational experiences than those who were assessed later in life. This is consistent with literature that emphasises the importance of early identification and assessment (Snowling, 2013). Four participants (Aaron, Keith, Nathan, Mel) who attended primary and secondary school prior to the 1990s experienced

more negative educational experiences than those who attended school in more recent years, suggesting a positive shift in the understanding and support of dyslexic students.

Participants also noted that, at university level, the barrier of the cost toward the assessment was reduced or eliminated through financial support and this enabled them to seek a formal diagnosis; this choice was mainly motivated by the need to prove eligibility for academic accommodations and to receive computer and software equipment. Several participants felt that the accommodations had a positive effect on their academic performance (Rose, Meg, Anna, Victoria, Julie, Peter, Emily, Keith, Ned).

Three participants (Simon, Esther, Mel) did not have a dyslexia diagnosis, but recognised dyslexic tendencies in themselves. In two cases (Simon, Mel) this had been identified in their children (who were diagnosed with dyslexia) or in the case of one participant (Esther) discovered through their own research. In each case, they felt that the cost of assessment was too prohibitive and that it would not be beneficial at their age. They were employed in a professional capacity as musicians and music teachers, and yet were adamant that they would not share their dyslexic tendencies with colleagues or employers:

There is a part of me that wants to justify myself in front of them. 'Yes, sorry I am dyslexic and that is why that happened'. But I know I can't really do that. It's not acceptable to share it. When you are with musicians, a huge aspect is trust. (Esther)

One of these three participants noted how she would simply avoid jobs which required sight-reading, whilst the other two used complex overlearning or aural listening strategies to achieve better sight-reading skills.

Participants reported a sense of ambiguity about the assessment and diagnosis process, reporting that they experienced less self-blame following a formal diagnosis. However, two participants (Meg, Victoria) described having emotional breakdowns during assessment sections that were challenging to complete. Other interpretations of the assessment process included a recognition of past coping mechanisms, defensiveness, fears and sensitivities. Positive reactions included a reassurance that they could attribute their difficulties to

dyslexia and not to being lazy or lacking in effort, as their teachers or parents might have suggested (Victoria, Laura, Keith, Nathan, Katie, Ned).

Both Alex and Ben had a formal assessment and diagnosis. Their responses to being diagnosed with dyslexia were very similar. Alex stated that 'It didn't really change anything, but during primary school I got some extra help from teachers'. Ben noted that he was glad for the extra time and use of a laptop in secondary school. This suggests that having had the assessment earlier on in their school experiences has provided them with additional support and prepared them in a sense for the challenges that they face.

The cost of assessment may be a barrier for some dyslexics to be able to provide proof of eligibility for reasonable adjustments and exam accommodations which they perceive will improve their academic record. Some older participants did not perceive a benefit for themselves in a diagnostic assessment, as they were established in their careers and did not want to be stigmatised by employers or colleagues. There may be benefits to early assessment for dyslexic students. Sharing sensitive information like an assessment report may also require parents and the student to have some degree of trust that the teacher will use the information appropriately; teachers should be aware of data protection issues and the importance of safe data storage and confidentiality.

### **10.3.3 Challenges and strategies**

General challenges reported by participants include a slow pace and misreading of text, challenges concerning writing, processing, visual disturbances, basic maths, sequencing, motor coordination, time management, being overwhelmed by information, spatial awareness issues, following instructions, working memory, stress and anxiety during tests or in a classroom.

#### **10.3.3.1 General challenges**

Text reading speed was described as 'painfully slow' (Rose). Participants reported frustration that they had to work harder than their peers to achieve the same results (Meg, Simon, Katie, Ruth) with another participant lamenting the fact that they had tried to use the same strategies as others but had not been successful with them (Esther). Participants

noted that they had to discover their own strategies and coping mechanisms. James stated: 'I have always had to find my own way of learning; it was the same with music'. Others attributed their challenges to poor teaching and felt that if material had been presented in a different manner, their results would have improved (Peter, Meg, Katie, Aaron, Rose). Aaron noted that due to the differing assessment standards of exam boards, he was able to pass his Music GCSE after having failed it the first time. These findings suggest that although dyslexic students recognise their challenges and weaknesses, they also recognise that appropriate instruction and more flexible educational systems would likely produce better outcomes for them. There was an emphasis on the importance of being enabled to develop their own ways of learning.

Similar to the interview participants, my piano student Ben reported that his challenges at school were very much dependent on the way classes were taught. For instance, when asked to describe what was challenging at school he said 'Everything, but sometimes there are fun things I can do' (Reflective notes 2021-6-17). He described being frustrated when 'It doesn't come together the way I want it to' in ICT [information and communication technologies] or textiles, suggesting a possible difficulty with following complex instructions. In ICT, he found 'typing and coding' a struggle. Ben reported other challenges:

English. Writing PEEL<sup>33</sup> paragraphs. I can't get them to the length the teacher wants. Reading is harder for me than writing. I find using things like 'simile' and 'juxtaposition' really hard. I just don't get it.

Alex reported his challenges to be in the subject areas of 'Maths, English, art, geography and being good [at school]'. In terms of memory, he stated that 'I don't ever remember things; I have to try to put it in the top of my brain and I just keep reminding myself'. Alex noted that reading and writing were both challenging:

I find both quite difficult to be honest. So, I usually type on my iPad or my teachers print out extra stuff for me because they like me to practise writing sometimes.

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<sup>33</sup> PEEL paragraphs refer to the methods of argument construction: point, evidence, explain and link.

Alex also described difficulty with learning foreign languages, and was relieved that he had been exempted from the requirement at GCSE level, reporting 'In my last French test, I got 3 out of 50!'

A slow pace of reading, spelling difficulties, poor executive function, visual disturbances and poor working memory are some of the general challenges faced by dyslexic students. An important theme is that students preferred to find their own way of learning and could be frustrated that it took them longer than peers to complete similar tasks. The importance of a more flexible educational system was highlighted as a way to reduce the stress they might face when learning foreign languages or when taking exams.

### ***10.3.3.2 Music-related challenges and strategies – findings from interview participants***

Challenges with aspects of reading music were reported by all participants ; this is consistent with the literature (Oglethorpe, 2008; Nelson & Hourigan, 2016; Ganschow et al., 1994). As one participant stated:

I think it has to do with one step between knowing where the note is and starting to make music. The step between analysing where everything is and starting to be fluent. (Esther)

Some participants noted that to a certain extent they were able to improve their sight-reading by using various strategies; other participants felt that learning to sight-read at speed was not attainable for them despite years of practice (Mel, Victoria) or even repeated attempts to learn to read music at all (Nathan, Rory). This is consistent with the idea that dyslexia occurs on a spectrum and that challenges associated with it may persist despite attempts at remediation. Reading music was described as most challenging when it involved more than one stave of music, or for singers when they had the additional burden of reading lyrics as well as pitch and rhythm. General strategies for reading music included using non-white paper, enlarging the score and highlighting troublesome areas as well as using methodical and structured approaches which might include recognising patterns or harmonic analysis. Several participants reported the strategy of obtaining a recording of the music and listening to it prior to attempting to read it.



## **Rhythm**

Thirteen participants described a difficulty with reading rhythm, including processing music symbols and feeling the pulse and rhythm in the music. Effective strategies noted by participants were to analyse the music, isolate the rhythm, break it down to the smallest component, use phonetic symbols, write the beats into the music, to clap or tap the rhythm and to attempt to play it very slowly at first. Practice strategies that focused on recognising commonly found rhythmic patterns were deemed helpful (Julie). One participant noted the effectiveness of the Dalcroze approach, using movement to embody the feeling of the rhythm (Katie). Victoria devised a system of colours and shapes to denote music rhythm in a visual way.

## **Pitch recognition**

Challenges with pitch recognition involved correctly identifying the specific pitch as well as matching the pitch to the position of the body relative to the correct location of the note on the instrument. Isolating and practising pitch recognition through intense overlearning in addition to recognising the shape of intervals between notes were reported as useful approaches. The challenge that complex key signatures create was described by participants who reported that they found it easier to write each flat or sharp note into the music, rather than remembering the key signature and applying it to the piece (Keith, James). Learning, practising and visualising specific scales helped some participants with remembering key signatures. Meg reported writing the pitch names on a score to help with sight-reading. A strategy to focus on poor bass clef reading, reported by Keith to be 'enjoyable', was to practise pieces by Bach which had interesting bass line movement. The use of solfège, mainly for vocal students, was identified as a way of distinguishing intervals when sight-singing (Meg).

## **Music theory**

Other challenges reported by dyslexic students included remembering the meaning of foreign terms, recalling and processing aural tests in time to achieve a response in exams, identifying sequences of terms (for example, *tonic*, *submediant*, *dominant*), or understanding and applying concepts (for example, the Circle of Fifths). Participants

reported that using visual memory tools, Memrise<sup>34</sup> as an example, helped them to learn and recall foreign music terminology. Memrise, or other applications like Quizlet<sup>35</sup>, benefit the learner by allowing them to set their own pace by choosing the number and type of questions in a given learning set. Developing a visual strategy for learning the Circle of Fifths, one participant reported another self-teaching concept:

I found a music theory book in Oxfam and thought I would just read it. Within a few days, I decided to teach myself the information. I made Post-it notes for the circle of fifths and put them on the wall. (Meg)

### **Music exams**

There was a variance in responses regarding experiences with music exams. Victoria was not aware of reasonable adjustments and accommodations that are available. In describing her experiences, Rose stated:

In terms of music, I've done fourteen ABRSM exams in piano, singing and cello. I always struggled with aural tests, especially the memory ones. My working memory is terrible. So, the playing and singing back was not good, and I compensated by doing as much as I could with scales and pieces just so it levelled out. (Rose)

She considered how accommodations might have changed her exam experiences:

I wonder what it would be like to have adjustments on music exams, I didn't even think they were available. I think it would have helped if I could have made notes during aural exams, during sight-reading, and extra time too.

Katie took a more relaxed approach, describing how 'I'm not really bothered about what I get ... I view it as "I'm going to give you a couple of pieces that I'm pretty pleased with and I'm going to try to keep with you while sight-singing"'. Peter struggled with the listening part of aural exams but noted that he overcame these challenges with targeted training. Meg described challenges with pitching when preparing for her Grade 8 singing exam, stating

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<sup>34</sup> Memrise: <https://www.memrise.com/>

<sup>35</sup> Quizlet: <https://quizlet.com/gb>

that the 'teacher was worried about me doing the aural and sight-reading parts of the exam'.

The teacher plays an important role of supporting students, but without appropriate training may struggle to do this effectively. Julie was given extra time and a separate location but felt that teachers were not aware of her needs as an individual with dyslexia. Keith stated that 'accommodations in music exams need to be improved, and teacher's awareness of them needs to be better as well', whilst Ned credited a teacher who offered extra support after school with helping him to pass Grade 5 theory.

These findings suggest the importance of the teacher's role in supporting students with specific strategies, but also the need for an awareness of the implications of dyslexia on students' learning. Teachers would benefit from knowledge relating to preparation and support for students who wish to use accommodations and reasonable adjustments during exams.

### **Other challenges**

In some contexts, performers are required to memorise music and for some dyslexic students this was reported to be a challenge, while for others the use of aural memory was preferable to sight-reading a score of music. Julie reported that she endured a variety of exhausting and time-consuming self-imposed strategies to memorise piano music for an audition including handwriting the score, harmonic analysis, practising away from the piano, using different rhythms and articulation and the use of memory checkpoints. Meg described a strategy of learning to play a piece on the piano with hands together from the start, as she felt she was learning kinaesthetically, knowing a piece 'in her fingers'. Mel approached this differently, aurally memorising a piece, orienting it to the piano keyboard and then working backwards to understand and connect this to the score. Visual strategies helped another participant with memorising, stating that 'I do memorise music, because I use visualisation and learning through mental work ... it is very effective for me; I memorise a picture of the music' (Jane).

Sight-reading, rhythm and pitch reading at speed can be a challenge for dyslexic music students. By devising their own strategies, using recordings or other aural strategies and repetitive overlearning, most are able to improve to some degree (Nelson & Hourigan, 2016). However, for some students, music scores remained inaccessible as the primary means of learning music; a potential future research direction might explore how to normalise the use of more visual representations of pitch and note durations but in a way that reduces stigma or shame and unobtrusively converts from standard notation. Like the interview participants, my student Alex reported his challenges as reading the score of music, but noted that he had improved through the last four years. Alex stated about music that 'It seems like a blank piece of paper to me. It's better if it's all spaced out. I would use an iPad but then I would have to scroll'. My student Ben also described his main challenges as 'sight-reading notes'.

Dyslexic music students reported that their main challenges were in the areas of sight-reading, feeling rhythms or establishing a steady pulse, coordination, memorisation and aspects of music theory learning. Participants reported that the use of aural learning strategies, often through recordings or demonstration, was a useful strategy for learning music. They also suggest that the use of repetitive overlearning as a means of improving automaticity in response to slow processing may be beneficial. However, this was not always the case, and some participants preferred aural learning with frequent repetition.

#### **10.3.4 The use of technology**

Thirteen participants referred to the use of technology as a music learning, composing and producing tool, and also as a means of support through finding a like-minded community who share similar challenges. General technology applications such as mind mapping, speech-to-text, screen readers and text editing (for example, Grammarly<sup>36</sup>) were found to be beneficial by participants.

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<sup>36</sup> <https://www.grammarly.com/>

#### **10.3.4.1 Recordings**

The majority of participants reported using technology for music recordings, suggesting that the rise of applications like YouTube, Spotify and Apple Music in recent years have been useful for dyslexic music students. Meg recalled the value of obscure recordings with isolated individual choral parts as a tool to improve accuracy in part singing, when finding that attempting to learn the part by playing it on the piano was too time-consuming and slow. Ned and Meg made recordings of their vocal lessons to help them remember various aspects. However, the use of recordings as a means of learning music could be seen as controversial by some teachers, as Jane described:

I use recordings way too much. I know that using recordings is not a great tool for learning music. It's frowned upon. But I am definitely guilty of listening to them to know how to do or play something. (Jane)

This suggests that there is limited flexibility of approach to learning music in music education systems which may lead, not only to inequalities for dyslexic students, but feelings of inadequacy.

#### **10.3.4.2 Composing and score modification tools**

Nathan, a student guitarist, recording musician and music producer recalled that he has never been able to read music successfully, but used technology to record and manipulate music. Other participants indicated that music scoring programs (for example, Sibelius<sup>37</sup>, Finale<sup>38</sup>, Dorico<sup>39</sup>, Flat.io<sup>40</sup>) were effective ways of obtaining immediate feedback when composing by using the playback option. These programs also allow for creative approaches with the use of multiple, layered instrumentation and a means of simplifying the composing process. Participants reported modifying music scores by adding colour or written notes even temporarily when learning the piece of music, as well as removing lyrics or other aspects with a white highlighter tool (ForScore , Flat.io).

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<sup>37</sup> <https://www.avid.com/sibelius>

<sup>38</sup> <https://www.finalemusic.com/>

<sup>39</sup> <https://www.steinberg.net/dorico/>

<sup>40</sup> <https://kirk-piano-tuition.flat.io/>

#### **10.3.4.3 Games and social media accounts**

Katie and Meg described their approach to learning foreign language terms by using the application Memrise, a visual and flashcard-based approach to language learning which allows students to tailor the amount of and type of information they learn at a time. Meg created an Instagram account where she shared her journey of learning the ABRSM Grade 5 music theory exam material which became a source of inspiration and encouragement for other dyslexic students and their parents. This also suggests that accounts like these might serve as a means of informing others about the challenges dyslexic music students face and as a way of de-stigmatising perceptions about the label of 'dyslexia'. There is a sense that some students may feel guilty for using tools like recordings or modifying scores and this suggests that perhaps teachers and educational systems might be more flexible in finding approaches which support the learner whilst also developing music reading skills to their full potential.

Both of my piano students, Alex and Ben, reported that they used recordings of pieces. They described enjoying the use of composing and arranging tools like Flat.io or GarageBand<sup>41</sup>. I asked Alex to create a drum accompaniment on GarageBand with the idea that this might encourage a more even tempo when he was playing a piece. Ben and I created a game online using Jeopardy Labs<sup>42</sup> as a way of testing his GCSE music knowledge. A game is created by making categories with different degrees of difficulty. When a category and level are chosen, it provides the user with an 'answer' and they supply the 'question'. We also used technology in facilitating online lessons during the Covid-19 pandemic, and WhatsApp as a tool for sharing recordings, communication and brief notes with parents.

In conclusion, students reported the use of technology for obtaining recordings of pieces or their lessons, using applications which allowed them to isolate and practise core skills, arranging or editing music, and modifying scores by highlighting specific areas, or as a means of communication with teacher and parents.

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<sup>41</sup> <https://www.apple.com/uk/mac/garageband/>

<sup>42</sup> <https://jeopardylabs.com/>

### 10.3.5 Coloured overlays

Although coloured paper or overlays are often referred to as a strategy to help dyslexic students, students expressed some concern that coloured paper or overlays were being proposed as some sort of magic fix for their dyslexia. One participant recalls:

In grad school I was told [by lecturers] that ‘Well your dyslexia won't be an issue if I print your music on coloured paper’. And I was like “What?!” So, all my assignments were printed on various colours of paper. I thought “This is the same typewriter font - that isn't helpful!” With a serif font! Well, they said the files were so old they could not convert them. (Julie)

Julie went on to say that she had tried coloured overlays without success, stating that ‘they weren't especially helpful to me because I still had to do the same amount of decoding and everything still moves [around on the page] the same amount’. She suggested that there were so many variables between colours and text sizes that might make a difference in reading that it was difficult to know how to establish what worked best. Coloured overlays were seen to be helpful, but a sense of stigma when using them was expressed, as Meg described: ‘I should use overlays more often, but I don't like to because I don't like to draw attention to the fact that I'm using them. I could use my tinted glasses, but I don't’ (Meg). Rose had also used coloured paper and tinted glasses with text, but not with music scores:

It was recommended to use different colours of paper and I was given a pair of tinted glasses. I believe it helped, but I didn't use them when looking at scores. I'm not sure why that is. I suppose a lot of music books aren't printed on pure white paper, and maybe that helped? (Rose)

A number of participants referred to the use of colour to highlight specific elements of their scores, such as highlighting parts played by different hands (Mel), differentiating between note values (Victoria), open or closed phonetic sounds (Ned), rather than using an overlay or coloured paper. Laura preferred the use of colours over the use of numbers to separate beats:

So, where in piano you have both hands, I will put a [vertical] line. Blue is beat one, yellow is beat two, red is beat three and green is beat four and that way I don't get lost in a sea of numbers. (Laura)

These findings from students indicate that the use of colour to highlight specific elements of the score tends to be more useful for them than an overlay or coloured paper. This may mean that highlighting reduces the processing burden connected with certain elements, for example rhythm and phonetic sounds, and also helps to distinguish between specific elements, for example separate hands or parts.

### **10.3.6 Strengths**

The most common self-reported dyslexic strength was the ability to find their own way of learning. Sixteen participants reported aural strengths: playing by ear, strong relative or perfect pitch, an ability to mimic or copy aurally, and recognising or producing vocal harmonies. Several participants referred to themselves as good listeners in the verbal and interpersonal sense, although this was often followed by words like empathy, collaboration and the ability to relate to others and particularly those with dyslexia (Simon, Victoria, Julie, Ruth, Rose). Some participants referred to themselves as good performers and this suggests that these self-reported sensitivities to people and the environment may assist them as performers in communicating to an audience; a sense of flair for being dramatic was also identified as a personal strength (Ned, Simon, Esther, Nathan, Peter). In correlation, Julie described how she learned to communicate in sign language and attributed that to an ability to easily replace words with physical actions. Verbal communication skills were also noted by some participants (Aaron, Ned, Meg, Grace, Rose). One participant observed that one of his strengths was 'distracting people from my weaknesses' (Ned).

Resilience, determination, leadership and tenacity were among the words used by participants in identifying their own strengths. Despite research on the negative effects of dyslexia on executive functions such as working memory (Gray et al., 2019; Fostick & Revah, 2018), some participants reported exceptional memory for longer pieces of music. Having taught himself to play the guitar at age 16, Nathan described a dichotomy between his challenges and strengths:



The bizarre thing about dyslexia is that it cripples you for doing particular things and in other things, it doesn't seem to have much of an effect. I can remember long pieces of music, but I can't remember things I have to hold in my short-term memory. (Nathan)

Problem-solving skills, lateral thinking, inventing, creativity as displayed in composing, improvising and arranging music and practical skills were reported by participants (Aaron, Laura, Grace, Rory, Ruth, Nathan, Peter, James). Ruth described this as 'finding unique connections' which she felt was helpful to her as a leadership skill as well as the ability to 'imagine, improvise and find solutions' to problems.

When I asked my piano student Ben to finish the statement 'In school, I am really good at ...' he replied 'Maths, science and RE'. He described making the choice to take the Music GCSE course at his school and also felt that he had strengths in design technology classes, describing how he enjoyed using diagrams to create electrical circuits. In terms of learning music, he stated that 'I can improvise well, listen to a piece and try to play it, maybe not perfectly, but I can get around what it sounds like'.

In response to the same question, my student Alex reported having strengths in 'PE, music and maths'. Interestingly, when asked what he perceived his strengths to be, he replied that 'being told off' in school was a strength. Alex expressed confidence, independence and a strong sense of self-efficacy, making statements like 'I'm a quick learner'. After being able to play a difficult section, he stated: 'It's satisfying when you get something right when it's really, really hard'. This attitude of self-determination characterises his learning approach, and has been a promotive factor in his resilience to continue with piano lessons.

In summary, aural strengths, resilience and determination, creativity with improvising or composing music, verbal communication, problem-solving and performing strengths were reported by participants. In reference to the risk-resilience model (Catts & Petscher, 2022) described in Chapter 2 of this thesis, these strengths might be seen as protective and promotive factors for dyslexic music students when faced with frustration due to challenges with slow sight-reading, poor coordination or executive functioning when learning music.

### 10.3.7 Positive and negative teacher experiences

Attitudes and approaches used by teachers were significant factors in how students engaged with and enjoyed learning. Participants reported that teachers who were flexible, but employed a systematic approach, were helpful. Participants appreciated creative methods which helped to guide them to find their own ways of learning. Peter described this when learning Grade 8 theory material:

I had an amazing theory teacher when I was working on jazz in Grade 8 theory. With Bach chorales, there is such a long list of what to do and I found that intimidating. The way I found to do it was to create jazz Bach chorales; the idea being that you break as many rules as you can and that allowed me to remember the rules. (Peter)

Ned attributed his achievements in music to a secondary school teacher who would give him one-to-one sessions after school, as well as to the following teacher who had a creative, dramatic approach:

Everything is taken to the extreme, when he demonstrates something, for example dynamics, he will do it really loud and then take it very quiet and be very animated in the way he would do it. Extreme colours, extreme emotions, extreme animations and that's what sticks for me. (Ned)

A relaxed, collaborative approach was valued by Victoria: 'When I had my first flute teacher, he would sit beside me and he would be playing the flute or his other instruments – it was great!'. Teachers who had knowledge of dyslexia and recognised the difficulties students might have could lead them to feel supported and encouraged rather than blamed for their weaknesses. Beyond that, teachers with knowledge of appropriate instructional strategies for dyslexic students and those who were able to recognise when students were overwhelmed demonstrated kindness and understanding. James recalled:

Every so often, my piano teacher would tell me to close my eyes and then ask me random questions like 'Who is your favourite composer?' and I would answer and then we would go back to the piano and I would play a lot better. (James)

Participants expressed gratitude for teachers who went above and beyond their required duties by offering the student extra hours of tuition when needed for no additional costs. Meg described her teacher's 'unrelenting faith' in her despite her shortcomings: 'For me, the right teacher made all the difference'.

Participants also reported some negative experiences with teachers, particularly those who refused to use accommodations for which students were eligible. Parents and disability support tutors had to be drafted in to advocate for students in these cases. In the 1980s, Nathan and his parents were told that he was educationally 'sub-normal' despite also being told that he had a high IQ. Julie described having to educate her teachers on dyslexia as they had never encountered a dyslexic student in their graduate music classes previously, noting that they often used inaccessible methods of teaching or assessing.

Participants reported a lack of engagement when teachers scolded them for trying to use strategies such as writing in different colours or writing on the score of music (Rose) or forced them to work on pieces or material which were too difficult for them and not approached in an appropriate way (Peter). Meg described that while her disruptive behaviour caused her teacher to become very angry, in retrospect, she recognised that through her behaviour she was trying to hide the fact she was struggling. This suggests that had the teacher been able to recognise her behaviour as a cry for help, they might have responded with more understanding. As Keith described, as students we may make 'progress, but [it might] not be that perceptible on someone else's timetable'. Some participants reported abusive behaviours such as being ridiculed or misunderstood and that teachers were frequently frustrated or in a bad mood with them. There is no excuse for abusive behaviour directed at students. However, this may suggest that teachers are under pressure from educational systems or parents to demonstrate the student's progress through exams and high marks, and they may transfer this pressure to their students. It also suggests that there continues to be a lack of knowledge of dyslexia and how it affects dyslexic music students and a lack of understanding of appropriate music instruction for dyslexics as well as a lack of flexibility in approach to individual students.

My student Ben described enjoying RE [religious education] lessons as the teacher would show the class 40-minute videos and then ask pupils to answer one or two simple questions. This suggests that learning that was mainly focused on watching and listening, with a minimum emphasis on reading and writing, was preferable for him. Alex and his mother reported numerous punishments due to disruptive behaviour in school. Alex described good teachers as those who were ‘fun and silly’, and ‘not strict’.

In summary, dyslexic music students reported preferring teachers who are flexible, relaxed and willing to try a variety of learning approaches. As they may require extra time to learn, dyslexic students were appreciative when a teacher offered extra time and patience in order to support them. Negative experiences related to scolding, punishment or abuse were reported by participants; this may suggest that some teachers do not have sufficient knowledge about dyslexia or the effect it may have on a student’s learning process.

### **10.3.8 Table of student-reported useful resources**

Table 10.2 lists resources which dyslexic students recommended as a means of informing their understanding of dyslexia or flexible approaches to learning music. Several participants noted that available resources on dyslexia were usually text-based and thus not optimal for them. This suggests the need for accessible resources in the area of dyslexia and music learning. Meg’s mother taught the *Toe by toe reading approach* (see Table 10.2) and that is where she became familiar with the methods. The resources on dyslexia were located independently by participants, but some of the books on flexible teaching practices or performing psychology were recommended by teachers to the interviewees. The only book not directly related to dyslexia was Berg (2019) which focuses on components of foundational skills and good practice technique whilst making a case against common errors and mindsets which prevent these from being established.

Participant name	Resource
Aaron, Esther, Julie	British Dyslexia Association resources
Meg	<i>Toe by toe reading approach</i> <sup>43</sup> , a highly structured phonics-based approach
Katie	<i>Playing by colour</i> music tuition book (Goodey, 2013)
Grace	<i>In the mind's eye: Visual thinkers - gifted people with dyslexia and other learning difficulties</i> (West, 2009)
Grace, Mel, Esther	<i>The gift of dyslexia</i> (Davis & Braun, 2003)
Grace, Julie, Keith	<i>Music and dyslexia: A positive approach</i> (Miles et al., 2008)
Victoria	<i>The mind map book: Unlock your creativity, boost your memory, change your life</i> (Buzan, 2009)
Mel	<i>Dyslexia: A beginner's guide</i> (Brunswick, 2012) Oneworld
	<i>The secret life of the dyslexic child</i> (Frank with Livingston, 2002) Rochdale
	<i>Overcoming dyslexia</i> (Shaywitz, 2003)
	<i>The dyslexic advantage</i> (Eide & Eide, 2011)
Keith	<i>Instrumental music for dyslexics: A teaching handbook</i> (Oglethorpe, 2008)
Peter	<i>Zen guitar</i> (Sudo, 1997) Simon and Schuster
Jane	<i>Practicing music by design: Historic virtuosi on peak performance</i> (Berg, 2019) Routledge

**Table 10.2 Resources recommended by students**

My piano students Alex and Ben reported that their parents were their main source of information about dyslexia. Ben described a school assembly and a leaflet that he was given about dyslexia. He recognised similar struggles as those mentioned in the leaflet but realised that he was not as severe as others who cannot read at all. Ben stated that he did not look for resources on the internet about dyslexia, but felt that a series of short videos might be useful for parents who might have unrealistic expectations of their dyslexic children.

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<sup>43</sup> <https://toe-by-toe.co.uk/>

In summary, participants reported obtaining information from books, parents or from online resources. However, some highlighted the lack of accessible materials, with text-based materials being the most widely available resource.

### **10.3.9 Student perspectives for envisioning change**

According to participants, there were a number of areas in need of transformation across systems of individual, family, school and society. From a societal point of view, several participants noted that more people need access to assessments in order to receive accommodations which they believe may empower them to succeed. They called for more openness in workplace and institutional environments regarding neurodiversity and for more incorporation of training on assumptions made about dyslexic people and their challenges. At an educational level, participants reported the need for teachers to have awareness of the signs of dyslexia and felt that educational institutions needed to use a less text-based approach and improve their adaptations for different learners. This suggests that educational institutions might benefit from incorporating frameworks like the Universal Design for Learning (CAST, 2018) in their curriculum and teaching approaches so that they consider a variety of ways to engage the student, present information or materials and allow the student to express their learning (See Reflective Statement 6 for further explanation). One participant suggested a change in the mindset of what 'ability' means in academia (Nathan), whilst Keith suggested that musicians should be able to use diverse and non-traditional music-learning strategies without fear of repercussion, shame or any other sense of barrier.

On the music education level, Ned described a need for specialist *music* support, similar to the role of academic learning support tutors at his university. Participants noted that there were too many hurdles to accessing music exam accommodations and that this may prevent them from being more widely used. This also suggests that a lack of awareness of accommodations may prevent teachers and their dyslexic pupils from using them effectively. Exams and online learning packages which use 'click and drag' technology, multiple choice questions and which are timed are all seen as problematic for dyslexic

students; participants suggested that practical assessments were better ways of measuring their skill levels.

Information on music and dyslexia is largely text-based, and content on the internet is not always accessible for those with dyslexia. Participants reported difficulties finding information with web or application-based technologies, describing a sense of frustration in trying to navigate content hidden under layers of web-links. Peter suggested that a series of brief, engaging videos aimed at dyslexic music students might also be relevant to adults if the content and information were presented in an appropriate way. On an individual level, several participants expressed a desire to champion dyslexia and produce resources which would inspire and inform others. Grace had created a number of books and webinars for this purpose, whilst Julie encouraged other dyslexic students to pursue assessment and a confidence in developing their own learning strategies.

Both my students Alex and Ben referred to the wish for virtual reality technology that might help them learn to read music. Ben asked 'Is there a way to get rid of it [dyslexia]?'. This suggests that he views dyslexia as a disadvantage, and also indicates that there may be gaps in his knowledge of the nature and causes of dyslexia. These findings support the need for the availability of engaging and accessible resources for dyslexic music students. Short videos, like the type described by one of the interview participants, might highlight similar challenges and strategies dyslexic students might find beneficial. These might be used as a way to present the positive aspects of dyslexia as well as a way to reduce common myths. These findings also indicate that dyslexic students can envision ways in which technology might complement their music learning skills and reduce barriers for them.

#### *10.4 Summary of findings*

- Students recognised the importance of family support, particularly that of mothers, in preparing them for school, gaining knowledge about dyslexia, advocating and supporting them.
- Schools or teachers may resist parents' attempts to advocate for their children or may blame the parents for the student's difficulties. The findings suggest that

schools may be reluctant to acknowledge a student's difficulties due to financial implications.

- Without adequate training and knowledge, instrumental teachers may place blame on parental lack of involvement or students' lack of practice if they are not aware of how dyslexia may be affecting them.
- Findings suggest that an assessment of dyslexia may provide increased support to some students, especially at a young age, although older professionals did not perceive a benefit as they were established in their careers or did not intend to disclose in the workplace. The cost of an assessment may be weighed up against perceived benefits, such as additional support.
- Assessment information provides useful information for the instrumental music teacher. These findings suggest that the instrumental teacher's awareness of data protection issues and the importance of safe data storage and confidentiality is an important aspect of building and maintaining trust with parents and students.
- General challenges reported by participants include a slow pace and misreading of text, challenges concerning writing, processing, visual disturbances, basic maths, sequencing, motor coordination, time management, being overwhelmed by information, spatial awareness issues, following instructions, working memory, stress and anxiety during tests or in a classroom.
- Dyslexic students highlighted the importance of finding their own ways of learning. They recognise their strengths and weaknesses but also note that appropriate instruction and flexible education might produce better outcomes for them.
- Findings suggest that challenges with sight-reading music occur across a spectrum with some cases persisting despite attempts at remediation.
- Reading music was described as most challenging when it involved more than one stave of music, different clefs, or for singers when they had the additional burden of reading lyrics as well as the pitch and rhythm of the music.



- General strategies for reading music included using non-white paper, enlarging the score and highlighting troublesome areas as well as using methodical and structured approaches which might include recognising patterns or harmonic analysis. A number of students used recordings of lessons or sections of pieces as means of learning them.
- Some participants reported difficulties with rhythm, relating to reading rhythm, processing music symbols and feeling the pulse or rhythm in the music. Effective strategies noted by participants were to analyse the music, isolate the rhythm, break it down to the smallest component, use phonetic symbols, write the beats into the music, to clap or tap the rhythm and to practise it slowly.
- Challenges were reported with recognising pitches on the staff and relating them to the instrument, distinguishing intervals and recalling key signatures. Suggested strategies were to isolate and drill note recognition, interval recognition exercises, highlighting sharp or flat notes, visualising scales and using solfège to practise sight-singing.
- Challenges related to music theory include terminology, aural test preparation and information requiring sequencing. Students reported using online quiz applications as well as visual materials to develop recall.
- These findings suggest the importance of the teacher's role in supporting students with specific strategies, but also the need for an awareness of the implications of dyslexia on students' learning. Teachers would benefit from knowledge and training relating to preparation and support for students who wish to use accommodations and reasonable adjustments during exams.
- Students reported the use of technology for making recordings of pieces or their lessons, software which allowed them to isolate and practise core skills, arranging or editing music, modifying scores by highlighting specific areas or as a means of communication with teacher and parents.

- These findings from students indicate that the use of colour to highlight specific elements of the score tends to be more useful for them than an overlay or coloured paper. Highlighting may reduce the processing burden connected with certain elements, for example rhythm and phonetic sounds, and may help to distinguish between specific elements, for example separate hands or parts.
- Aural strengths, resilience and determination, creativity with improvising or composing music, verbal communication, problem-solving and performing strengths were reported by participants. With reference to some of these skills being developed compensatory mechanisms, they may be seen as protective and promotive factors when dyslexic students are faced with frustration due to challenges with slow sight-reading, poor coordination or executive functioning when learning music.
- Desirable teacher traits include flexibility, adaptability and a relaxed approach. Students recognised, with great appreciation, those teachers who had given them extra time and patience.
- Negative experiences related to scolding, punishment or abuse were reported by participants; this may suggest that some teachers do not have sufficient knowledge about dyslexia or the effect it may have on a student's learning process.
- Information was obtained from a number of sources: parents, books and online resources, although with the majority of materials based on text this limited their accessibility for dyslexic students.

### *10.5 Conclusion*

The dyslexic music student voice may help us as researchers and teachers to better understand their priorities, challenges, strengths and views on the learning process. This may enable us to provide them with better music education experiences and prevent or reduce feelings of low self-esteem. Participants reported the significance of family support, particularly that of mothers, in helping and advocating for them through their educational

journey and their assessment with dyslexia, as well as in the role of negotiating with schools or teachers. Early identification and an openness and positivity in the family's attitude toward dyslexia was seen as significant for participants, who specifically felt that dyslexic parents were able to empathise with their challenges. Participants reported a number of general and music-related challenges for which they had devised strategies, often with the guidance of a teacher or parent, to compensate for their difficulties. Technology was often used as a means of mediating aspects of learning which they found frustrating, with music recordings seen as particularly valuable. In light of dyslexic music students' reported strengths with aural skills, this is not surprising. Experiences with teachers were reported to be both positive and negative; but dyslexic music students reported that flexibility, adaptability, support and patience were appreciable traits. Whilst some resources relevant to dyslexia or flexible music-learning approaches were described by participants, the need for more accessible resources specifically related to dyslexic music students, their parents and instrumental or vocal teachers was highlighted.

## **REFLECTIVE STATEMENT 7: EMPATHIC UNDERSTANDING AND COMPASSION FATIGUE**

### ***RS7.1 Introduction***

Dadds (2008) considers the role of 'empathetic validity' in practitioner research, distinguishing 'internal empathetic validity' as concerned with relationships at the microsystems level of the research and 'external empathetic validity' relating to the dissemination of the research at the exosystem and macrosystem levels (p. 279). As Bronfenbrenner and Morris (2006) noted, proximal processes at the microsystems level are bidirectional and by being made aware of the experiences of my students and their parents in our interactions, I felt compassion and empathy for them and have grown in my respect for their sustained determination in the face of the challenges that they face. My hope was that they would sense my understanding and concern for them, even if there were issues which I did not completely understand, and for them to be aware that I wanted our connection to be positive, authentic and hopeful.

In this reflective essay, I consider the emotional transition I have undergone in relation to my role as a teacher-researcher in developing greater empathy at the microsystem level toward my dyslexic students and their parents; this sense of compassion and desire to advocate for people with dyslexia has motivated me to bring about transformational societal change at the exosystem and macrosystem levels of development (Bronfenbrenner, 1979). An additional area of growth has been the recognition of the toll that this compassion may take on me as the teacher, and my development in recognising the signs and preventing compassion fatigue, or burnout, by maintaining a healthy perspective and professional boundaries (Rosefield, 2023).

### ***RS7.2 Context***

Coming from a family background without any incidence of dyslexia, I was unaware of the inequalities which are faced by individuals with dyslexia. I was also unaware of the challenges of obtaining assessments, ensuring reasonable adjustments and accommodations were being used effectively and of the toll and cost of energy and finances

that this takes on families. Dyslexic students may face stigma and misunderstanding in the school system and with their peers. In my reflective journal, I noted my irritation when my student Ben told me about asking a teacher at school not to speak so quickly because he struggled to take notes in time. The teacher never responded to his request. Although I understood that the teacher was most likely constrained by the need to meet curricular requirements in a timely manner, I imagined the frustration I would feel if my requests for help were ignored or minimised, and the powerlessness that would likely cause me to feel.

My student Alex described how when he misunderstood directions in a lesson at school, the teacher became angry with him and made him do the entire assignment over again. His mother, Erin, related how 'Alex hates school and finds it hard to sit still and concentrate. Then gets into trouble quickly whenever he isn't coping'. I asked Erin, Alex's mother, if there were any positive relationships with teachers at school and the one-word answer 'No' revealed the extent of her frustration. There were no practical solutions offered nor understanding as to the root causes of the behavioural difficulties. This correlates with Dahle et al. (2011) which suggests that teachers might not attribute behavioural difficulties to dyslexia or may feel that they would be labelling the child if they did; parents in my research appear to have to persist in communication with schools and teachers to attempt to achieve better understanding of their child and their needs. In the literature review of this thesis (Chapter 2) the secondary characteristics of dyslexia (Livingston et al., 2018) have been discussed. National statistics provide a bleak educational picture, as the BDA (2019) report that compared to non-dyslexics, dyslexic students are 'twice as likely to fail to achieve grade 4 or above in English and maths at GCSE' (p. 5) and are 'three and a half times more likely to be temporarily or permanently excluded' from school (p. 6). These statistics highlighted the challenges that my students faced and I felt compassion for them and their parents. I recognised the need for teachers (at school) to be better supported in terms of training and with additional support staff and I felt discouraged that due to financial constraints, this was not always a possible solution.

### *RS7.3 In my relationship with parents*

Two critical incidents occurred with parents, both of which resulted in an increase in my empathic understanding which led to changes in my teaching practice. In the first incident, I became aware of a slightly defensive response when I followed up a request for the student to have access to an app which would help him build his recognition of notes on the staff.

I have noticed that I have advised his mum to get these apps (which are free or very low cost) and I'm not sure it has happened. Perhaps I haven't stated my case strongly enough. However, I feel that much more progress would be made if he was able to practise these skills more regularly. Note: at the next lesson, his mum asked me to send an email with the app names. I need to remember that my dealings with her must be dyslexia friendly as well – just telling her something at the end of a lesson is not enough. Also, I need to show her how the apps benefit her son's learning.

An instrumental teacher may not always know the reasoning for a perplexing lack of cooperation from a parent, particularly a dyslexic parent, in certain areas. The teacher may not always know that a parent is dyslexic. We cannot underestimate the trauma of some of the negative experiences they may have had in the past. As they observe their child struggle in similar areas, parents may feel exposed and responsible, and this may provoke unpleasant emotions (Leitão et al., 2017). Rather than speculate, the most productive thing we can do is to try to create an environment of open and authentic communication so that even vulnerabilities might be safely shared (Wilmot et al., 2023). My other action point after this incident was to highlight to parents the importance of reinforcing learning by applying specific practice techniques or repetition at home. This seemed to work best with some notice in advance that resources should be expected, checking in with them during the week and then following up with appreciative messages for their support and feedback on the student's progress.

In another situation, the mother related that due to the structure of the school day, their dyslexic child did not receive extra time during significant exams. This was the student's usual way of working, and extra time had been noted as a beneficial reasonable adjustment

in his dyslexia assessment. When I expressed my surprise about this, the parent's immediate response was to express guilt and regret for not having been able to advocate more effectively for him. I never intended for that to be the result of my words. From my point of view, I felt the school had been negligent. However, I had a discussion with a specialist for dyslexic students who related that this was common and that schools were not obliged to provide dyslexic students with reasonable adjustments and accommodations which did not work within their timetables.

There are value judgments that must be made by schools and exam boards in determining whether reasonable adjustments are awarded. This exposes some of the shortcomings within educational systems in providing dyslexic students with their established rights under the Equality Act 2010 and further highlights the difficulties schools might have with implementing reasonable adjustments. As an instrumental teacher, it expanded my understanding of how my legitimate concerns for students may contribute to an increased sense of burden for parents in a situation which is out of their control, and this taught me to exercise more caution and sensitivity in future communication. It also expanded my awareness of the significance of the challenges faced by parents in attempts to advocate and negotiate with schools.

#### *RS7.4 Externalising and internalising behaviours*

I was aware of the differences in confidence levels between my dyslexic students and how this manifested itself in their outlook on trying new approaches or pieces of music.

Behavioural issues also affected my students in different ways. One student displayed a loss of concentration and would rub his eyes, whilst another student would be restless and would fidget with the piano keys and pedals. During an online lesson, a student behaved so poorly that a parent had to intervene at one point, but I felt this externalising behaviour, demonstrated through hyperactivity and a loss of concentration, might also be attributed to the social isolation and uncertainty of the Covid-19 pandemic as well as a family house move.

I recorded a conversation with one mother who described some uncharacteristically angry episodes at home during a time of significant stress at school. We discussed whether this might be a form of 'letting off steam' in a safe space as a way of dealing with the pressure from a specific teacher who had reprimanded the student. I was aware in our lessons that I needed sensitivity and care in my manner, choice of words and tone of voice and that I was privileged to have information about their experiences shared with me. Singer (2005) notes that children with dyslexia may be reluctant to discuss their problems with their parents and teachers. I knew that they did not want to be treated with pity or condescension. At the same time, I was aware that in my desire for them to achieve their full potential, I could overestimate what level of challenge they had the emotional and mental capacity to handle, along with school and other life demands, and my intentions could backfire. I recall at least one example of this where the student put up a wall of defence, and it led me to feelings of guilt, frustration and disappointment in myself.

It was only through reflecting on how the student coped with the situation that I realised they had been internalising how they really felt. As much as I wanted the students to be able to communicate freely and openly with me, sometimes this led to ambiguities, and I had to look past them for deeper meanings. Beyond hiding their true feelings, I also observed an indecision about goals and the choices they made. During one period, we seemed locked in a cycle where the student would choose a piece to play, I prepared resources and recordings, they changed their mind and chose another piece, and the pattern went on for several months. I felt irritated at the wasted hours of preparation and I felt frustrated because we did not seem to be making progress in meeting any goals as the goalposts were changing so often. I observed that excuse-making might be a way of masking a difficulty with the tasks themselves. Yet, when I asked questions about what might be more suitable or how they might like to approach this situation, the answers were vague, and it became apparent that there were other issues at play. I observed them deflecting questions as a coping mechanism when faced with challenging situations.



As a result of understanding that a change was needed in my emotions and approach, especially when we were looking for new pieces to play, I took another approach. I described to them how, as a child, I would go to the local library and choose a huge stack of books. I would come home and read a few pages of each book to see which one I wanted to read through first and then climb a tree in my front garden and read it. Some of the books were never read to the end. In telling them this story, I hoped to convey, or normalise, the idea that it was perfectly fine to sample pieces and that learning was still taking place even if they did not have a polished product at the end of a term. Also, this reinforced that it was fine for them to change their minds about a piece. This was a transition in my mindset and emotions from past teaching practices. Some pieces became favourites and others were discarded quickly. I observed a change in the students as it seemed to relax some of the tension or pressure they felt, and each trialled piece had something to teach us.

### *RS7.5 Masking behaviour and consequences*

Singer (2005) refers to the strategies children with dyslexia may use when trying to protect their self-image as 'hiding, working hard, fighting back or explaining' (p. 421). Understanding that these are common reactions used to preserve self-esteem helped me to develop more empathy for their actions and to look for prompts or cues that might indicate how they were feeling. Masking strategies might include copying the behaviours of others, using pre-scripted responses and hiding uneasiness from a sensory overwhelm response (Kidwell et al., 2023). As a type of surface management, or emotional regulation, individuals may conceal or disguise their emotions (Grandey, 2000). This can be seen as a way to manage identity in different contexts and has been shown to lead to poor mental health and emotional well-being, including resource and ego depletion (Hülshager & Schewe, 2011). Learning that ego depletion is linked to poor self-regulatory skills and resource depletion to poor mental health outcomes emphasised for me the importance of creating an atmosphere of empathic understanding for my students.

### *RS7.6 Developing empathic understanding*

Empathy is not prescriptive or theoretical, instead it is communication which allows an ‘identification, elaboration and transformation’ of what someone else is feeling (Gardner, 2024, p. 81). Several factors may have been driving the students’ behaviour based on their disposition, their needs, how they were coping at school or through the pandemic and the ways in which they viewed themselves. These factors were not static. Gardner (2024) suggests a process of focusing not only on the feelings, but the intentions of another person, and working with what they are willing to say, rather than what they may not be saying yet. Each student is unique and the dynamics in each relationship are different. By realising that my interpretation of each situation would not always be right, I allowed myself to sit with that uncertainty, adapt to the student’s response and offer them the space to correct me. I tried to be aware of any words or phrases which might act as triggers for them. Even talking about dyslexia with them caused awkwardness at times and felt uncomfortable for us both. My own experiences and positionality were the lenses through which I viewed the students, and this affected my ability to empathise fully with them. Being in the roles of teacher and researcher and not having had the experience of dyslexia or learning music as a dyslexic person meant that I had to focus intensely on observing their behaviour. At times, this felt like an overwhelming and impossible task; in addition, factors such as the pandemic, being a mother, running a small business and working as a graduate teaching assistant along with other personal challenges meant that I was pulled in many directions and the situation took its toll.

### *RS7.7 The importance of preventing compassion fatigue*

Observing the struggles that my students and their parents faced with teachers, schools and systems, as well as knowing that, unintentionally, I may have caused shame or discomfort for them was overwhelming at times. I felt exhausted from the intense focus of trying to unpick their feelings, perceptions and motives during lessons and from the level of observation that was required of me. I felt a sense of injustice at the unfair systems of assessment and inequalities in education that I was observing. There was another tension which developed from the multiple perspectives I was hearing through my research. Both of

my students had exceptional family support, and yet I could see how challenging things were for them and their families. How much more would this be exacerbated for a child from a low socioeconomic background who lacked parental or community support?

Throughout my life, I have been sensitive to injustice and feel deeply for others when they are treated unfairly. I recognise this is one of my dispositional characteristics (Bronfenbrenner & Morris, 2006), and it has benefits and drawbacks. What I viewed in a hospital for abandoned children with HIV in Romania in 1999 led me to establish a home for them which is still providing care to those who have survived to this day. But there were times when my identification with the horror of their situation was so deep that my emotional well-being was affected. Glaser (2014) notes that by observing others' pain, we also may have an experience of pain; an empathic response which can lead to compassion fatigue, or burnout (Rosefield, 2023). Maslach and Leiter (2016) describe burnout as having three elements: 'exhaustion', 'cynicism' and 'inefficacy' and suggest that prevention is better than dealing with complete burnout; they note that re-evaluating schedules, developing resilience, spending time with family and friends, relaxation, nutrition, exercise, spirituality, a positive mindset and greater self-awareness may help in dealing with stress (p. 103). It was those experiences which led me to understand that I must develop a professional stance in balancing care for myself as well as care for others and maintaining healthy boundaries. Signs of this were when I began to feel disinterested, unmotivated or found it difficult to disengage from thinking about challenging aspects of teaching or research.

I knew that I would be a better teacher if I took breaks and time to feel rejuvenated. However, there were tensions as I tried to balance highly competing demands, for example, wanting to reduce my teaching schedule with the need to pay household bills or wanting to commit to regular exercise but facing time constraints. The support of others, my friends and family, helped immensely to keep me grounded in a healthy perspective. I saw evidence of the valuable role of peer support in a visit to an inclusive practitioner's meeting with Music Education Hubs East Midlands (MEHEM Uprising) and at Music Mark conferences. In particular, the MEHEM meeting, with a setting which was not school or office-like, enabled a

feeling of retreat. Self-reflection was not always comfortable, but it played a role in allowing me to create a distance between events which occurred and the time needed to process my feelings and to consider new ways of moving forward (Dadds, 2008). Also, it helped me to show compassion to myself, particularly during the pandemic, when so many factors were out of my control. Still, I found it difficult to put a limit on the high expectations and standards I had set for myself, and which in the past I have been prone to hold on to stubbornly even to my own detriment at times.

One aspect which motivated me was the hope that I might be able to make a difference in someone else's life and bring about transformative change. However, I recognise that 'advocacy fatigue' may be an additional cause of burnout when facing interpersonal and systemic complexities (Maslach & Leiter, 2016). In myself, my students and their families' lives, I have shown some evidence of a development of internal empathetic validity. The following comments from the students' mothers give some indication of this, as Erin shared that 'He [Alex] is loving piano and is getting the affirmation that he needs and that means that he is engaged with it. It's something he enjoys and feels well doing' (Erin). And Ben's mum, Polly, stated:

Ben has been wonderfully taught in piano. This is probably the only area of his learning where I feel he has a teacher who really understands him and who is able to tailor and amend teaching techniques so that he can reach his potential. (Polly)

After delivering a workshop on dyslexia to teachers in Manchester in 2023<sup>44</sup>, a teacher came to me and let me know that the workshop had helped them, as a person with dyslexia, to understand themselves better. Alongside the development of empathic understanding with my students and their families, I also seek to demonstrate external empathetic validity by improving music education for dyslexic students who would like to learn music, and for parents who may need support in their roles, and in preparing instrumental music teachers to have a greater awareness of dyslexia, risk-resilience factors affecting their students and a foundational knowledge of best practice in approaches and strategies. In sharing my

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<sup>44</sup> Music Mark Northwest Music Hubs Conference, September 4, 2023

experiences more widely, my desire is for a greater recognition of the emotional labour costs of teaching dyslexic students, for teachers to be aware of the signs of burnout, to recognise systemic demands, to call for and enact change where possible and to demonstrate sustainable caring for others.

## **Chapter 11 DISCUSSION OF FINDINGS**

### *11.1 Introduction*

Previous chapters of this thesis (Chapters 5-10) presented the analyses of data throughout this study. This chapter provides an overview of the findings and Reflective Statements 1-7 and discusses these against the contextual backdrop of the literature review of music and dyslexia presented in Chapter 2. The literature reveals that dyslexia is a complex condition from a scientific standpoint, with many facets still to be understood. Additionally, there is limited music teaching and dyslexia literature available, with the majority consisting of anecdotal case studies from music teachers or dyslexic musicians. The lack of literature and research provided further impetus for this study which conceptualises music education and dyslexia from a pedagogical and holistic systems perspective in order to improve and enhance instrumental music teaching for dyslexic students.

The data used to support the findings discussed in this chapter include a questionnaire which was used to investigate the perceptions of music exams amongst dyslexic students. The data collected provided insights into the experiences and perspectives of these students. Interviews were conducted with students, parents and teachers. These gathered qualitative data and personal experiences related to instrumental teaching for dyslexic students. I also analysed reflective observations from two case studies within the context of my piano teaching practice. These observations provided firsthand insights into the challenges and successes of teaching dyslexic students.

In this chapter, the discussion is presented in relation to the research questions. Section 11.2 discusses the perceptions of music teachers on their experiences and pedagogical practices (including strategies, methods and materials) in teaching dyslexic students. The second section (11.3) addresses student and teacher perceptions of music exams, including the use of reasonable adjustments and accommodations. The third section (11.4) presents perceptions of the strengths of dyslexic students and how teachers might identify and utilise those in the lesson context. The fourth section (11.5) addresses the student voice in the learning process in view of findings. In light of the overall findings, the roles of student, parent and teacher interactions in the pedagogical process (11.6) are examined in relation to risk-resilience

literature, resulting in a new model (11.7) which conceptualises how promotive and protective factors at a number of systemic levels might enhance the development of resilience in dyslexic students. Section 11.8 presents the analysis of feedback in relation to the findings and the new model from an evaluative focus group of stakeholders with expertise in inclusive music education. Some of these topics are discussed from multiple perspectives in this chapter as there was considerable overlap between categories.

## *11.2 Research question 1*

### **RS1 1. What are the perceptions of music teachers regarding their experiences and utilisation of pedagogical practices, including strategies, methods and material, in teaching dyslexic students?**

Although some literature (Oglethorpe, 2008; Miles et al., 2008; Morrow, 2023) presents case studies of teachers and their approach to dyslexic students, there is limited research investigating the wider perceptions of music teachers' experiences, how they obtain information and put pedagogical approaches into practice as well as a lack of research on teachers' use of graded music exams with dyslexic students (discussed in section 11.3). Several themes emerged from the data collected from teachers' interviews. This study extends the understanding of teachers' barriers and challenges (11.2.1), their observations of dyslexic students' difficulties as well as the strategies utilised (11.2.2). Teachers' perceptions of students' strengths will be discussed in section 11.4 of this chapter.

#### **11.2.1 RQ1 Barriers and challenges**

This section discusses the importance of the teacher's role in the pedagogical process and the need for more research, training and resources related to music and dyslexia. Challenges faced by the teacher are discussed, as well as the means of mitigating some of these through the development of a positive teacher-student relationship. This highlights the value of the teacher-student relationship in facilitating effective learning and support for dyslexic students.

##### ***11.2.1.1 The impact of a lack of training and resources***

These findings indicated that many teachers have not received adequate training nor have access to specific resources to effectively support dyslexic students. This can make it challenging for them to understand the unique learning needs of dyslexic students and to

implement appropriate instructional strategies, leading to stress and anxiety for the student, confirming the findings of Francis et al. (2019), Novita (2016) and Singer (2005). This limited awareness may lead to misconceptions and assumptions about the condition which can result in ineffective teaching approaches and a failure to address the specific challenges faced by dyslexic students. The impact on students' motivation and emotional well-being is documented by Wilmot et al. (2023).

Teachers in this research study face challenges in balancing the difficulty levels of instructional materials and tasks. They need to provide appropriate challenges to promote growth and learning whilst ensuring that tasks are not too overwhelming for dyslexic students. This can lead to poor behavioural outcomes for the student (Humphrey & Mullins, 2002). This can also create tensions if there is a mismatch between high parental expectations and appropriate support for the student, as identified by Oglethorpe (2008). Unless teachers are actively learning about dyslexia, they may not be able to help students develop a more positive and realistic understanding of their own abilities. Another challenge is navigating behavioural issues whilst maintaining a positive and inclusive lesson environment.

#### ***11.2.1.2 A need for inclusive schools and working environments***

The literature review in Chapter 2 revealed a need for more inclusive music education practices (Fautley & Whittaker, 2018) and research on disability in the arts (Cox & Kilshaw, 2021). This suggests that peripatetic teachers may face challenges due to limited resources and support from the school, including a lack of specialised intervention programmes, assistive technology or access to additional support staff, making it more difficult to meet the needs of dyslexic students. The findings of this research indicate that teachers, especially those who are neurodivergent or have other forms of hidden disability, might be unwilling to disclose their condition due to stigma or shame; they may find aspects of teaching or administration challenging due to their dyslexia. This indicates a need for more inclusive practices in the workplace environment and with colleagues and highlights the importance of creating a supportive environment for all teachers along with the need for more research examining how this might be best implemented. It is important for schools and employers to provide ongoing professional development, resources and support to teachers to address these challenges and ensure effective instruction for dyslexic students, as confirmed by Hourigan (2007) and Van



Weelden & Whipple, 2005) training in inclusive teaching practices might increase the confidence of teachers to use inclusive teaching practices with all students.

### ***11.2.1.3 Managing parental involvement***

The findings of this research suggest that teachers may feel under-equipped or concerned about managing parental expectations when teaching dyslexic students. This might be seen in a reluctance to teach dyslexic students and suggests a need for training and information. Music exams are discussed in greater detail in Section 11.3, but the findings of this research indicate that knowledge is needed related to selecting examination boards, obtaining information about reasonable adjustments and preparing students for exam settings for teachers. Further emphasised is the importance of parental involvement and the management of expectations in building positive relationships between teachers and parents, which correlates to points made by Oglethorpe (2008) and Macmillan (2005). Relationships with parents are discussed in Section 11.6 in greater detail, but teachers' views confirm the importance of parental involvement whilst also acknowledging that much depends on the context of the relationship in terms of recruiting parental involvement and the management of expectations, aligning with Catts and Petscher (2022), Oglethorpe (2008) and Wilmot et al., (2023).

Challenges identified in this study are congruent with those described by Oglethorpe (2008) with variables of dyslexia disclosure linked to parental beliefs about dyslexia and their understanding of its relevance for the music teacher. Teachers observed the difficulties that parents encountered in advocating for their children at school, believing that schools lack the finances and resources to adequately support dyslexic students. This highlights again the systemic disadvantages and the need for schools to provide adequate support and resources for dyslexic students, which correlates to reports (DfE, 2023) that students face substantial delays in receiving educational and health care plans (EHCP) and that schools need to be incentivised to improve support for SEND students (National Audit Office Report, 2019). It also emphasises the importance of teachers using tact and compassion when speaking to parents, especially those with dyslexia, who may have negative educational experiences in their past and feel a sense of anxiety or stress, similar to other research findings (Leitão et al., 2017; Wilmot et al., 2023).

Whilst teachers tended to identify dyslexic students through general lesson observations or by comparison with other students, these methods may lead to incorrect assumptions about students. Singer (2005) described this as the student 'hiding, working hard, fighting back or explaining' to protect their self-image (p. 421). Similar to the literature on secondary characteristics (Livingston et al., 2018; Novita, 2016; Singer, 2005), teachers were aware of some students' low self-esteem, as manifested through body language and self-castigation. Teachers attempted to interpret students' behaviour, recognising that indications of stress might result in hiding their difficulties and emotions or practising a type of surface management (Grandey, 2000; Kidwell et al., 2023). Schwabe & Wolfe (2013) recognise the impact of stress on the student's capability to learn. However, these secondary characteristics might not relate so much to self-esteem as to the student's self-efficacy, self-determination and an appropriate learning environment (Burden, 2008).

#### ***11.2.1.4 Potential benefits of a positive teacher-student relationship***

The findings of this research indicate a number of potential benefits from positive relationships in the pedagogical process, consistent with Oglethorpe (2008), Seligman (2011) and Armstrong (2012). When students feel valued, supported and connected to their teachers, they are more likely to actively participate in lessons, ask questions and take ownership in the learning process. Thus, their engagement in the learning process is enhanced. Positive relationships can foster a sense of belonging and intrinsic motivation in students. Teachers who establish positive relationships can inspire and encourage students to strive for their goals. When students feel secure, they are more likely to seek help, ask for clarification and take risks in the music lesson, aligning with (Singer, 2005) and Goldfus (2012). This can lead to improved understanding, retention of information and overall achievement. A positive relationship with the student can contribute to the student's emotional well-being. Teachers who create a supportive and caring learning environment may help students to feel safe, respected and understood. This can reduce stress, anxiety and feelings of isolation, promoting positive mental health and emotional development, which aligns with Seligman (2011) and Singer et al. (2013). Furthermore, positive relationships with students may contribute to the development of their social skills. Teachers who model positive communication, empathy, and respect can help students learn how to build and maintain healthy relationships. This can have

long-term benefits for students' interpersonal skills and their ability to navigate social interactions in various contexts.

It is important to note that these potential benefits are supported by a teacher having knowledge of dyslexia and research. The obvious conclusion is that when teachers feel supported and knowledgeable, they are better equipped to navigate the relationship with the student and the parent, as well as overcome some of the challenges which they reported. By providing reassurance and encouragement, teachers may help students to develop a positive self-concept and boost their confidence in their abilities, as confirmed by Riddick (1996) and Armstrong (2012). By offering appropriate modifications and instructional strategies teachers might empower students to progress. The recognition of effort reinforces students' belief in their own capabilities and motivates them to continue working hard, similar to the PIMMS model described by Patson & Waters (2015) in Reflective Statement 5. This gives further support to the strengths-focused approach which is discussed more in section 11.4. Overall, this emphasises the importance of the teacher's role in the pedagogical process and the need for ongoing support, training and resources to teach dyslexic students effectively.

### **11.2.2 RQ1 Teacher observations of students' challenges and corresponding strategies**

Teachers observed patterns of challenges which were aligned with the literature described in Chapter 2. Insights from strategies recommended by teachers for dyslexic students may be valuable for music educators in different contexts as they work with diverse groups of students.

#### ***11.2.2.1 Teacher observations of dyslexic students***

Consistent with Brimo et al. (2021) who highlighted the challenges created by co-occurring conditions, teachers recognised that identifying specific causes for difficulties was complex. The spectrum nature of dyslexia means that untangling the root causes to support the development of specific musical competencies may require patience and sensitivity on the part of the teacher. The primary challenges observed by teachers were related to slow processing, consistent with Peter et al. (2011), and difficulties with executive function skills, such as concentration, organisation, working memory and sequencing skills, again consistent with the literature (Smith-Spark, 2016; Akyurek & Bumin, 2019). Other areas of challenge reported by teachers include coordination, spatial awareness and visual stress, similar to

reports from the literature (Brimo et al., 2021; Kriss & Evans, 2005; Oglethorpe, 2008). The findings from teachers' observations agree with literature describing difficulties with sight-reading (Ganschow et al., 1994; Jaarsma et al., 1998; Oglethorpe, 2008), with teachers reporting a divergence between students who struggled more with pitch or with rhythm reading. This may relate in part to the experiences of teachers of diverse instruments in this study. An important limitation to consider in this study is that teachers' responses may also be influenced by existing literature on the subject of music learning and dyslexia.

#### **11.2.2.2 General strategies**

General strategies reported by teachers included physical demonstration, simplification of concepts or materials and kinaesthetic approaches (for example, Dalcroze methods) to learning. A subset of teachers, with an awareness of dyslexia-literacy as well as an understanding of the music and dyslexia literature (Ganschow et al., 1994; Hubicki & Miles, 1991; Miles et al., 2008; Nelson & Hourigan; 2016; Oglethorpe, 2008; Vance, 2004) designed lessons with a greater understanding of the impact of dyslexia on the student and with an awareness of effective strategies.

#### **11.2.2.3 Multisensory teaching strategies**

Multisensory teaching approaches are emphasised as they engage visual, auditory and kinaesthetic neural networks. Goswami (2015) affirms the importance of multisensory teaching approaches, stating that 'Learning depends on neural networks distributed across multiple brain regions: visual, auditory and kinaesthetic' (p. 4). How teachers conceptualise the use of multisensory strategies varied greatly across the participants, with some understanding repetition to mean rehearsing the same information repeatedly until learned and others revisiting concepts from time to time, or a combination of these. Maintaining students' interest and motivation as a consideration within the Universal Design for Learning (UDL) (CAST, 2018) framework (see Chapter 2 and Reflective Statement 6), is of paramount importance, whilst focusing on overlearning may be challenging as there is potential for the student to lose motivation from boredom or disinterest. On the other hand, in Reflective Statement 6, I observed how my students were open to repetition and I wonder if perhaps it was useful for promoting a positive spiral in their learning due to their familiarity with the material.

Morrow (2023) describes multisensory teaching as a complex process, having the student 'interact tactilely with the page, touching while simultaneously naming each note, marking beats in the measure, and then vocalizing the rhythm with the metronome while touching the beats and naming the notes' (p. 25). Whilst this process is systematic and structured, there is a question as to how it would sustain the interest of a dyslexic student, particularly one with attention or concentration difficulties, who simply wants to achieve the success of playing a piece. Morrow (2023) states that 'Unfortunately, when music reading is relegated to the second tier of the learning process, it is forced to follow the logical instructional order of making music instead of reading music' (p. 21). However, it is difficult to see why music making and music reading could not be taught simultaneously. The students' perspective on Morrow's (2023) method would provide additional insights. Another consideration is how the emphasis on one mode of teaching can be reconciled with the knowledge that dyslexia occurs across a spectrum, with unique profiles and frequent co-occurring conditions. As reported in the findings from teacher interviews (Chapters 6-8), two dyslexic students in the same teaching practice may need substantially different approaches.

#### ***11.2.2.4 Approaches in relation to visual stress***

Teachers should be aware of the importance of signposting students to relevant professionals for visual difficulty assessments. Teachers might benefit from being made aware of good practice in relation to visual stress; for example, advice from the Specific Learning Difficulties Assessment Standards Committee for practitioners on supporting students with visual difficulties (SASC, 2018/ 2019). However, as noted by Suttle et al. (2018) in Chapter 2, there is a need for greater research in the area of coloured overlays or lenses. This is an additional area where knowledge and training would be beneficial in order for teachers to have accurate knowledge about dyslexia and the area of visual stress.

#### ***11.2.2.5 Specific strategies for sight-reading challenges***

Teachers articulated several specific strategies addressing challenges with reading music:

1. Using modified scores that highlight specific aspects of music, such as important notes or rhythms, to help dyslexic students focus on the essential elements of the piece.

2. Helping dyslexic students develop pattern recognition skills, which can aid in sight-reading. By identifying these patterns in music, students can anticipate and read the notes more efficiently.
3. Incorporating repetition through flashcards, games or software to reinforce skills. This repetition helps dyslexic students become more familiar with musical notation and improves their ability to read music.
4. By listening to recordings and engaging in physical demonstrations to reinforce an understanding of rhythm and melody, teachers encourage students to learn through aural repetition and recall.
5. Using Dalcroze and Kodály methodologies, which emphasise movement and kinaesthetic learning. These help the student to engage with music through physical actions, enhancing their understanding and retention of the rhythm or pulse. This also includes the use of rhythmic syllables or vocalisation and repetitive practice with common rhythm patterns.
6. Only one teacher reported using Figurenotes (Drake Music Scotland, 2024), an alternative notation system, in their teaching. This suggests that teachers may not be aware of alternative systems and may need training in how to select and use them effectively with students. This visual strategy helps students to denote the duration of notes or rhythms, such as using different colours or symbols, and reduces the processing burden.
7. Technology was used to modify scores and to provide an aural representation of the score through the playback function, in addition to the games mentioned above.

Although teachers did utilise many of these strategies and applied elements of UDL in multiple ways of engaging the student, representing the music and expressing what they had learned, none of the teachers explicitly mentioned the use of a framework to incorporate and support a more inclusive approach to their teaching. In research with pre-service teachers, Lowrey et al. (2019) suggest that as a means of incorporating UDL into lesson planning, teachers might benefit from pre-designed templates and mentorship to promote their identification of obstacles to students' learning and note the need for an investment of time and resources to design purposeful lesson plans. Teachers may find this resource and a supportive collaboration with other teachers impactful.

### *11.3 Research question 2*

#### **RS2: Do adjustments and accommodations which music exam boards allow offer dyslexic students unbiased inclusion? What are the perspectives of teachers and students on this topic?**

Due to a paucity of research regarding teachers' and dyslexic students' experiences of graded music exams, it is not possible to provide a comparison from literature with the findings from the questionnaire and interviews with teachers and dyslexic students. Whilst dyslexic students are motivated to take graded music exams, a variety of barriers were reported. Specific requirements of exams may act as a bottleneck to dyslexic students' progression; for example, the amount of repertoire needed for a recorded performance exam, the aural test or sight-reading components in face-to-face settings or the format of questions or tests on music theory written exams. A greater degree of flexibility might be welcomed in the length and type of exams offered, as students recognised challenges with representing the information they had learned in music theory exams or found that the preparation placed high demands on their time. Whilst extra time as an adjustment is clearly valued, the means by which scales, aural tests or sight-reading are presented in the practical exams might also be considered in terms of accessibility. Extra training and support for examiners who implement these arrangements might enable greater sensitivity to students' needs and ways to reduce anxiety in the exam setting.

Practical exams which used to be 'face to face' are now offered online, an initiative that was designed to support students' exam taking during the Covid-19 pandemic which has remained a permanent feature. For ABRSM (Associated Board of the Royal Schools of Music), students do not have to take the sight-reading, scales or aural test components of the exam but can play three pieces from the syllabus and an own-choice piece that is at the same grade level. Whilst this may make the exam more accessible in some respects by avoiding elements some dyslexic students might find challenging, this also raises concerns in terms of accessibility of recording space, quality of instrument and recording materials and a change in marking criteria with a potentially subjective emphasis on 'performance skills'. It might be useful to consider more flexibility in terms of the types of exams or the number of pieces required in order to make them more accessible to dyslexic students. Another factor of discussion might be

whether this format of exam could be offered as a live exam if that was the student's preference.

The accessibility of the exam board website is a factor which should be carefully considered for all users, as it should not be assumed it is only students who have dyslexia. Exam boards could enhance their understanding of these issues by soliciting feedback directly from the users. The choice of colours and spacing around images and text might also be more carefully considered, as well as flexibility in the customisable options. Additionally, accessibility of content and the extent to which it is 'nested' in the main menu may influence how accessible it is for individuals with dyslexia. In a systematic review of dyslexia and web accessibility, Enco-Jáuregui et al. (2023) note that many websites do not follow current web accessibility guidelines and suggest that dyslexic users need customisability in terms of font format and size as well as the possibility of customising other elements on a page.

Since it is often the instrumental teachers who access the website, exam boards might consider ways to promote the understanding and use of access arrangements. However, this also raises the question of roles and responsibilities between teachers, parents and exam boards and suggests a potential need for exam boards to recognise their influence and to commit to widening their support of teachers and parents in inclusive practices. Teachers might benefit from practical resources which show them how to prepare students to use the arrangements effectively in the exam setting. This indicates that there might be additional training or promotion of reasonable adjustments needed for parents and students, perhaps with a more accessible approach, for example, through a variety of social media platforms or in a series of webinars.

### *11.4 Research question 3*

**RS3: Do teachers, parents and students perceive dyslexic students to have specific strengths? How might these strengths be utilised in the music lesson context?**

Dyslexia is viewed by society as a disorder or disability, and interviews with teachers and students in this research, reflect an emphasis on deficits. At each level of the bioecological model (Bronfenbrenner, 1979), from school to the workplace, experiences of failure leading to



a sense of shame and stigma were reported by students in this research, aligning with previous research (Livingston et al., 2018; Wilmot et al., 2023). In this study, one area of focus was the identification of strengths and how lessons for dyslexic students might be designed, not only to identify those areas of strength, but as suggested by Louis (2011), to develop them further and consider how students might build on them to generate resilience and a greater sense of agency (Frederickson, 2004). The rationale for this approach has been set out in Reflective statement 5, which discusses my development from a deficit-based perspective to a strengths-focused approach. The strengths identified by teachers and students (11.4.1) and the ways in which teachers might utilise these in the lesson context (11.4.2) are discussed.

### **11.4.1 Strengths identified**

Literature related to the strengths of dyslexia related to music learning and performance is somewhat limited (See Chapter 2 and Chapter 8 of this thesis). This discussion examines the perceptions of teachers and students in relation to strengths and explores the similarities and differences in their views against the backdrop of the literature (Chapter 2 of this thesis). Literature suggests that strengths may be a means of compensating for difficulties (Abraham et al., 2012), whilst another view is that information is processed differently and this may convey certain benefits related to creativity (Tafti et al., 2009). Other research suggests that differing brain structure or functioning in dyslexics may lead to specific advantages with visuospatial learning (Nicholson, 2014; Schneps et al., 2012).

Overall, students' responses were much more limited than teachers' responses regarding dyslexic strengths. This suggests that individuals with dyslexia are more likely to be aware of and focused on their challenges, and unaccustomed to thinking about themselves from a strengths-perspective. This lends further evidence to the rationale for teaching which is driven by a strengths-development approach, consistent with the literature which highlights the benefits of positive relationships and engagement (Frederickson, 2004; Maier, 2014; Seligman, 2011).

A theme which emerged strongly from students was the concept that they had the ability to find their way of learning, and when their teachers connected with that way of learning, they were able to make progress. Conversely, when they were forced into systems of learning or assessment which did not correspond to their abilities, often the result was failure. This was

the case for a student, Aaron, who was interviewed and reported how he failed GCSE exams with one board but passed them with another which used different forms of assessment. A parallel example given in previous research concerned Dave Brubeck's difficulties with sight-reading which were hidden by his masterful improvising skills; he was only allowed to graduate from university on the proviso that he would never teach music (Salmon, 1992). This lends further credence to the notion that failure for a person with dyslexia may be more tied to the types of assessment they encounter in the educational system, rather than their knowledge or abilities. This correlates to previous discussion (Section 11.3) on the types of assessment in graded music performance and theory exams which dyslexic students might find challenging and highlights the need for greater flexibility in the content and types of exams offered by exam boards.

Brubeck described frustrating experiences with Arnold Schoenberg, who was inflexible in his approach, but found inspiration and permission to compose more freely from another teacher, Darius Mihaud (Salmon, 1992). This also has implications for teachers and serves as further motivation to have a strengths-focus in their teaching, collaborating flexibly with the student to find what is successful and building on that as a foundation. Another theme that emerged was that students recognised hiding their difficulties as one of their strengths, or as Ned reported 'distracting people from my weaknesses'. Further implications for teachers include the importance of empathic awareness, as discussed in Reflective statement 7, as the long-term ramifications of masking emotions and difficulties may be detrimental to the students' ability to self-regulate and their mental well-being.

Overall, in the interview data and from analysis of my reflective observations, aural strengths were the most widely reported. This included good relative or perfect pitch, an ability to mimic or copy aurally, recognising or producing vocal harmonies and strong improvisatory skills. Teachers viewed aural memory, pitch perception and an ability to improvise as the student compensating for difficulties engaging with a score of music, and there was an emphasis on balancing lesson content for more challenging activities, such as sight-reading. Some teachers felt strongly that dyslexic students should not avoid areas of difficulty. Implications for teachers include the need for sensitivity to the students' reactions during activities, the student's frustration tolerance and view of themselves during activities they may view as remedial. This also has implications for teachers to examine their views of the importance of

sight-reading, which may have been influenced by exam requirements or their own past experiences as students and emphasise the need to maintain a flexible and adaptable approach.

Strengths in areas connected to creativity, for example, problem-solving, arranging music improvising and composing were identified. Creativity was seen by teachers in dyslexic students' unique approaches to learning and connecting ideas in a novel way, described by teachers as three-dimensional thinking, and through students' use of vivid imaginations to create narratives as memory aids for pieces. Strengths of resilience and perseverance were developed through an intense determination to achieve goals and often were viewed by students and teachers as a defensive response in the face of repeated failure. Verbal communication strengths were utilised as a social skill and as a way of creating narratives to develop recall of concepts or music. Dyslexic students reported themselves to be good listeners and described themselves as empathic and good collaborators, whilst this was not reported by teachers. This may suggest that many teachers view their roles with students less collaboratively and more from a master-apprentice perspective. Performance skills were noted, which may be linked to empathy and the ability to communicate with an audience, whilst students specifically recognised a strength in their flair for dramatic interpretation of music. This corresponds to the strengths identified in dyslexic actors (Leveroy, 2013).

Long-term memory strengths enabled the recall of pieces, although it was recognised as a dichotomy considering challenges with short-term or working memory. Music had to be learned and memorised carefully, with guidance, as errors might be difficult to unlearn. The ability to recall music through the kinaesthetic feel of the keyboard or instrument was identified as a strength. These strengths were seen as promotive and protective factors when students faced frustration due to challenges with slow sight-reading, poor coordination or executive functioning when learning music. The next section discusses teachers' use of these strengths in a strategic way to enhance the students' motivation and engagement.

#### **11.4.2 Teachers' utilisation of strengths in the lesson context**

Teachers incorporated a number of strategies in order to develop their students' strengths, including using kinaesthetic and aural patterns as part of the students' learning process, using parameters in improvisational activities to give the student some structure and support, using

notation software as an initial pathway for composition, encouraging students to verbalise their actions and responses to stimulate recall, supporting guided practice sessions and encouraging self-reflection in the learning process. Implications for teachers include sensitivity to the student and their chosen approach to activities, particularly if they are different to the teacher's preferred approach, and utilising a scaffolded approach, with an awareness of when detailed verbal instructions are appropriate. Students who enjoy performing should be given opportunities to have quality performing experiences which might heighten their sense of accomplishment resulting in increased motivation and a positive self-concept. By developing an awareness of the students' strengths, establishing a positive learning environment and collaborating with the student to eliminate barriers to learning, teachers might develop a strength-focused approach.

### *11.5 Research question 4*

**RS4: What are dyslexic students' perceptions of their music learning experiences? How might their voices be nurtured and amplified in the pedagogical process?**

Though there is literature which examines the perspectives of teachers (Boardman, 2020), assessors (Reid, 2016; Bajaj & Bhatia, 2020) and parents (Griffiths et al., 2004; Washburn, 2014) on the topic of dyslexia, there is less research focusing on the student perspective. One of the earliest studies explored school experiences, support received, attitudes towards dyslexia and coping strategies of nine dyslexic students (Riddick et al., 1997), whilst other research investigated student viewpoints of the traits and characteristics of teachers who helped them to learn (Riddick, 1996; Pavey et al., 2013). Blackman (2011) investigated the views of dyslexic secondary school students on effective teaching strategies, finding that they preferred 'more detailed explanations, question and answer sessions, and other kinds of enquiry-based approaches to learning like project work' as well as 'demonstrations, drama and role play, storytelling and suggesting important points' (p. 184).

Struggles with low self-esteem, anger, and depression, largely due to poor educational experiences, are documented in the dyslexia literature (Alexander-Passe, 2008; Eissa, 2010; Durrant, 2022; Bajaj & Bhatia, 2020; Livingston et al., 2018). Tanner (2009) describes how

failure may be ascribed to dyslexics based on faulty constructs about dyslexia (p. 786). Exam pressures leading to stress, frustration with mis-applied or refused accommodations, feeling misjudged by teachers and comparison with non-dyslexic peers were some of the barriers identified by students (Camilleri et al., 2019; Denhart, 2008).

### **11.5.1 Dyslexic student voice in the music education literature**

Dyslexic student perspectives of music learning experiences are even rarer, consisting mainly of anecdotal information (Ganschow et al., 1994; O'Brien Vance, 2004; Miles et al., 2005; Oglethorpe, 2008). In case studies of adult dyslexic musicians, findings indicate diverse profiles of difficulties with reading music notation and processing rhythm (Ganschow, 1994; Nelson & Hourigan, 2016). Both studies advocate the use of multisensory teaching techniques and isolating smaller components of the music as learning strategies, whilst Ganschow et al. (1994) also proposed that due to coordination and music reading challenges careful thought should be given when choosing an instrument. Further suggestions reported from a study of dyslexic musicians include expanding repertoire from traditional classical genres, the use of technology and an emphasis on small group or individual instruction (Nelson & Hourigan, 2016). Though there has been research into adult dyslexic musicians' perspectives, there does not appear to be any research which has considered a more diverse range of ages and context with regard to music education or, more specifically for the purposes of this research, instrumental teaching.

### **11.5.2 The importance of and rationale for investigating student voice**

Considerations from the learner perspective may enhance the educational provider's understanding of their own assumptions and may promote trust within the learner/teacher relationship (Nightingale, 2006). Riddick (2009) argues that the motivation for listening to the dyslexic student voice should come from a desire to improve their learning experiences and thus enhance their psychological well-being. May (2005) cautions that there may be several conflicting motives for educational systems' interest in student voices, noting that schools may be concerned with league table performance but might also consider other reasons such as empowering students or improving the environment to promote their physical and psychological well-being. Teachers, researchers and parents may have differing incentives for asking students about their perspectives. Teachers may seek the validation of their own pedagogical approaches and there is the potential for manipulation or over-monitoring from parents, teachers and researchers.

Findings from this research confirm the importance of family support, particularly that of mothers, in helping and advocating for them through their educational journey and their assessment with dyslexia, as well as in the role of negotiating with schools or teachers. Early identification and an openness and positivity in the family's attitude toward dyslexia was seen as significant for participants, who specifically felt that dyslexic parents were able to empathise with their challenges. Findings indicate that the students' relationship with the teacher, use of technology and strengths were strategically used to mediate their challenges with learning in the music lesson context. Great value was placed on teachers who were flexible and patient. Students also recognised the need for more accessible resources related to music and dyslexia.

Leitão et al. (2017) argue that different ecological levels (Bronfenbrenner, 1979) including government, educational, teachers, family and individual systems, need to be examined in order to gain a holistic picture of the issues affecting dyslexics and their families. In a study of parents and their dyslexic children, children and their parents reported benefitting from a support community of friends and teachers which they felt helped reduce parental anxieties, and a sense of isolation and stress-related behaviours, both internal and external, in dyslexic children (Wilmot et al., 2022, p. 50). The next section discusses the importance of the interactions of these roles in the pedagogical process.

### *11.6 Research question 5*

**RS5: What are the teacher, student and parental perceptions of the pedagogical process and roles in the music lesson context and how can these roles collaborate to collectively enable positive outcomes?**

Parental support for dyslexic students is explored in the context of risk-resilience literature with positive family support seen as a protective measure (Catt & Petscher, 2022; Jenson & Fraser, 2015; Reid, 2016; Riddick, 2009; Washburn, 2014). The roles that parents of dyslexic children assume are explored as a means of understanding parental agency. The impact of dyslexia on families has been presented from a whole-systems perspective which considers not only the relationships between the student, their family and educational environments but also policies which may affect them. Parental roles include maintaining their child's self-

esteem in conjunction with insensitivity from peers or teachers, reminding them of their strengths and encouraging them to persevere (Alexander-Passe, 2008; Reid, 2004). Washburn (2014) reported how mothers of dyslexic children journey through changing identity roles from 'investigator' to 'advocate' and finally, as 'tutor' (p. 123).

Findings from this research indicate that dyslexic parents may experience distress when they observe their child experiencing similar difficulties; however, they may also view their role as advantageous. Parents, dyslexic and non-dyslexic, with music training may be able to provide guided support during practice, depending on their relationship with the student. Parents also offer support through helping the student to organise material and practice times as well as celebrating their achievements. Communication with teachers is an important aspect of parental support; the instrumental teacher can benefit from the sharing of the assessment report, parental observations about the student's profile, knowledge of the student's emotional well-being, and parents' challenges in communicating with schools and classroom teachers.

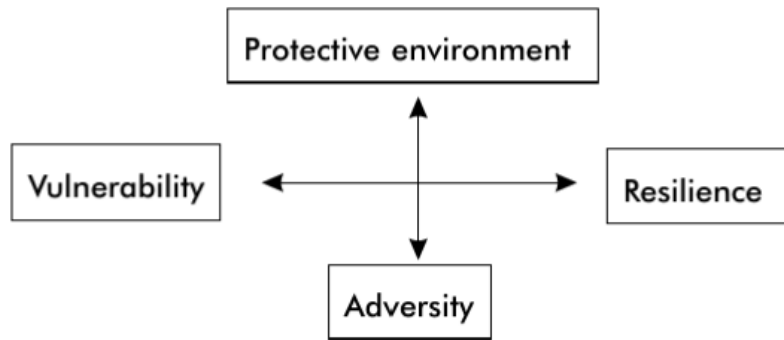
Griffiths et al. (2004) utilises a conceptual framework to identify how mothers of SEN children form identities and obtain knowledge so that teachers might understand how best to work in partnership with them. There are a number of implications to be drawn from this framework. If parents are not satisfied with the response after initiating discussion with school or teachers, they might seek knowledge about dyslexia from sources which empower them to negotiate effectively with teachers and schools. However, Griffiths et al. (2004) found that teachers and parents may have different expectations, and that cultural aspects (for example, working class parents versus educated professionals) might give some parents a sense of disadvantage. Parents might struggle to obtain quality information and may feel obliged to pay for specialist advice if they can afford it. Dyslexic parents may struggle to read or comprehend reports or messages from the school, particularly if the terminology is difficult to understand. In navigating SEN reports, parents may be frustrated if teachers or the SEN process fails to find adequate solutions for their child. There may be issues of mistrust, with the parent believing that the teacher is not concerned about the child as an individual. In some cases, the child may ultimately be withdrawn from formal school settings.

Implications for instrumental teachers include an understanding of the potential imbalances between teacher and parent in terms of power and knowledge and learning how to transfer power to parents by taking their concerns seriously, communicating to the parent that the child is seen as an individual and signposting the parents to good quality resources to build accurate knowledge about dyslexia and how to support the student's learning effectively.

Research into family (Snowling et al., 2003; Torppa et al., 2010) and twin studies (Olson et al., 2014) has confirmed a heritable risk factor for dyslexia and identified other environmental factors which may negatively impact on dyslexic students' outcomes: misperceptions as to the extent of students' difficulties, inadequate teaching, absence of support in the school setting, poor home surroundings and breakdowns in family relationships (Muter & Snowling, 2009). Durrant (2022) refers to the importance of parents in a protective role, helping the student to mitigate any shame or low self-esteem, valuing their differences as well as empowering them to be involved in decisions which affect them.

Research in the field of child psychology has identified frameworks for considering why some children with higher risk factors have better outcomes in the face of adverse circumstances (Catts & Petscher, 2022; Daniel & Wassell, 2002). Resilience is a dynamic process which may be influenced by various factors over time; key protective factors are stability in the home as well as supportive parents and teachers (Jenson & Fraser, 2015). In addition to a secure base and sense of belonging, good self-esteem and a feeling of self-efficacy are fundamental to developing resilience (Gilligan, 1997). Daniel & Wassell (2002, p. 11) created a 'framework for the assessment of resilience factors' (see Figure 11.1) to show how protective factors might be used to overcome areas of adversity and vulnerability to promote resilience in vulnerable young children. A better understanding of resilience factors supports 'an alternative framework for intervention, the focus being on the assessment of potential areas of strength within the child's whole system' (Daniel & Wassell, 2002, p. 13).





**Figure 11.1 Framework for the assessment of resilience factors (Daniel & Wassell, 2002, p. 11)**

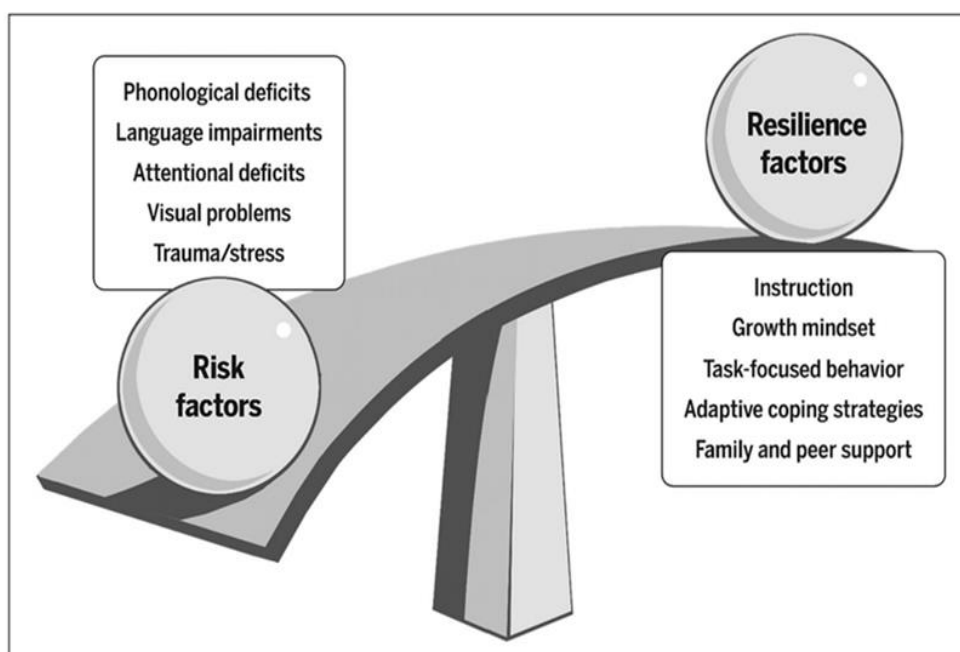
Used as an assessment tool, the framework is anchored around four dimensions: resilience, vulnerability, adversity and protective factors. By observing and analysing the interactive factors, a comprehensive picture of the individual develops and acts as a guide to indicate the measures needed to support them. The essential idea of the framework is to view the individual being assessed as moving from top to bottom and from left to right. The assessment should show which external areas of adversity or challenge may be obstacles to resilience and may need to be changed or removed and identify ways of bringing support to areas of intrinsic vulnerability.

Catts and Petscher (2022) apply this risk-resilience concept to literacy instruction for dyslexic students (See Figure 11.2)<sup>45</sup> and identify various ‘protective and promotive factors’ including appropriate instruction, higher verbal reasoning skills, working memory abilities, a student’s belief in their capabilities or ability to learn, strong emotional coping skills, support and encouragement of a teacher, strong parent-teacher connections and nurturing family support (p. 173). They specify these as either ‘promotive’ factors which are beneficial for everyone despite risk levels, or ‘protective’ which mitigate the effects of the risk factors; some factors are described as both promotive and protective (Catts & Petscher, 2022, p. 173). An example of a factor which is both promotive and protective is parenting; all children benefit from supportive parents but for those who are at greatest risk, nurturing parents provide a protective measure enabling the child to adapt more successfully to challenges (Masten, 2018).

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<sup>45</sup> Figure is used with permission.

Catts and Petscher (2022) postulate that by using this model teachers and parents might identify and facilitate dyslexic students' resilience factors as a means of mitigating or balancing the risks and putting into practice interventions which might be tailored individually for each student. Other protective factors relating to dyslexia in the family environment have been considered in relation to learning difficulties (Riddick, 2009; Yu et al., 2018; Catts & Petscher, 2022). Yu et al. (2018) state that brain development specific to the creation of compensatory mechanisms in dyslexics is influenced by environmental factors, noting that 'socioeconomic factors', the 'home literacy environment' and 'instructional approaches' may influence reading outcomes for dyslexic children (p. 244); socioeconomic aspects link to the availability of good nutrition and educational resources, both of which might affect a child's cognitive development.



**Figure 11.2 A cumulative risk and resilience model of dyslexia (Catts & Petscher, 2022, p. 173)**

Snowling et al. (2007) investigated the impact of learning difficulties on families of dyslexic adolescents and found that 74.3% of parents with a dyslexic child believed that there was a significant impact for the whole family and that mothers of children with learning difficulties demonstrated higher rates of anxiety and depression. In another study, Alias and Dahlan (2015) found that mothers of dyslexic children reported denial, guilt, anxiety, concern about their child's socialisation, academic skills and future plans; they might also have concerns about teachers who lack adequate knowledge or expertise corresponding to their child's

needs. Themes such as ‘time constraints, lack of knowledge, increased financial demand, school issues and negative feelings towards the child’s condition’ in addition to the expectations placed on them in their roles as mothers emerged, along with the conclusion that mothers would benefit from support on a variety of levels (Alias & Dahlan, 2015, p. 109).

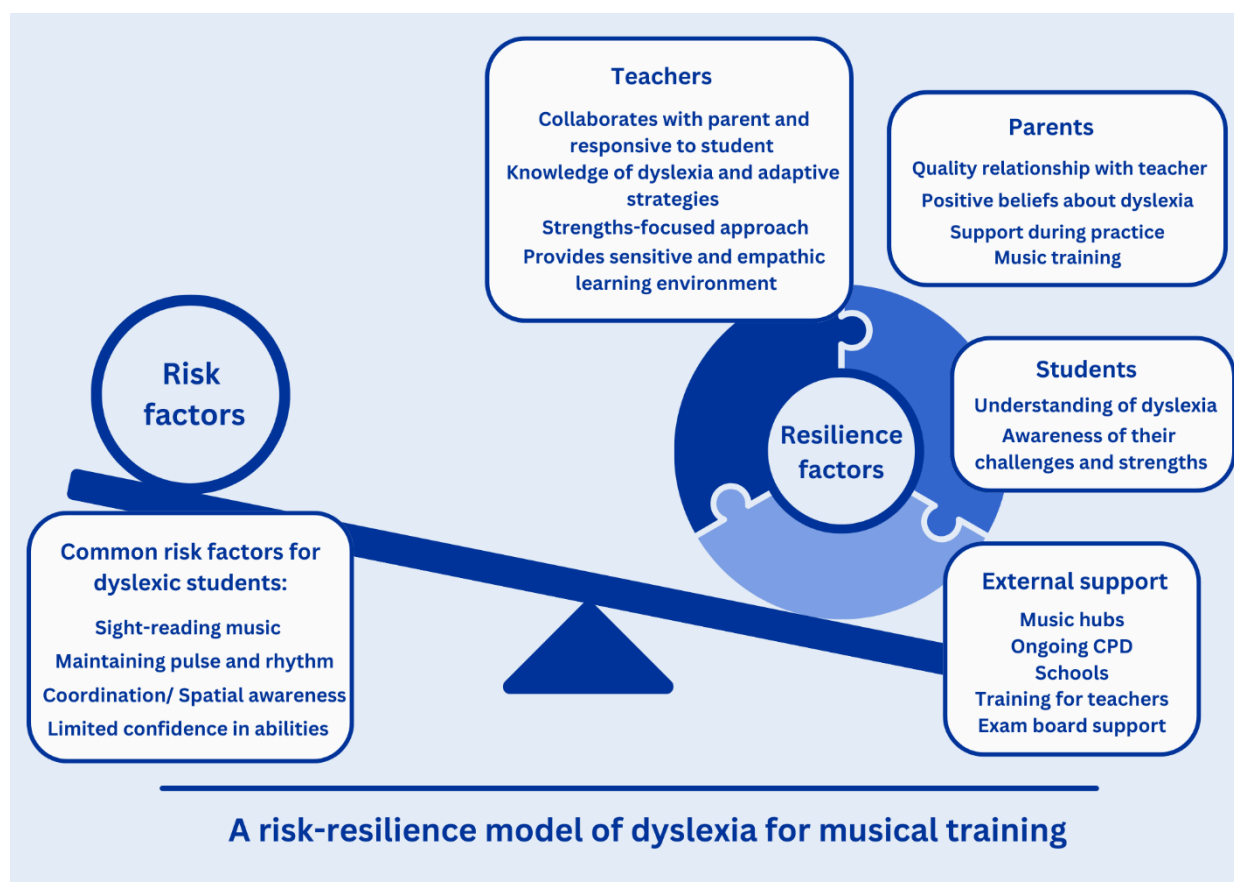
An ecological perspective (Bronfenbrenner, 1986) of the risk-resilience literature indicates that there are multiple systems and domains which may influence outcomes: the child’s relationship with themselves, their family, school environment and governmental policies must be taken into consideration. Riddick (2009) notes that educators and other professionals have an opportunity to learn from mothers of dyslexic children; these were identified earlier in this thesis and also in Section 11.5.2 as being of particular value. The Rose Report (2009) recognised distinctly lacking provision for parents of children with dyslexia and proposed necessary changes to the UK educational system suggesting that parents should be more informed about dyslexia through the provision of published material and a telephone helpline. A more recent study of teachers, parents and school counsellors with dyslexic learners confirms the need for whole-systems support involving all stakeholders, as parents suffer as a result of a lack of knowledge, counsellors were impacted by parents’ reluctance to have their child assessed, and both parents and counsellors felt that teachers were unsupportive; meanwhile, teachers reported a lack of training for working appropriately with dyslexic students and a sense of feeling overwhelmed with related responsibilities (Bajaj & Bhatia, 2020). Leitão et al. (2017) found that parents' and students' perceptions indicate the need for societal change in order to reduce the stigma of dyslexia. This finding is confirmed by Bonifacci et al. (2014) who state that ‘in setting up educational intervention programmes it is important to consider parental needs and resources, thus moving, within a systemic perspective, from an individual-centred to a family-centred care viewpoint’ (p. 188). The findings of the current study indicate that music education would likewise benefit from societal change and more visible, accessible systems for diagnosis and support.

### *11.7 A new risk-resilience model of dyslexia for musical training*

The aim of this research is to improve and enhance instrumental teaching for dyslexic students. By considering multiple systems from an ecological perspective (Bronfenbrenner (1979), drawing on the risk-resilience literature and assessment framework (Daniel & Wassell,

2002) and incorporating the findings of this research, a new risk-resilience model of dyslexia for musical training (Figure 11.3) has been created.

The purpose of this model is to highlight the areas in which parents, teachers, exam boards and institutions might collaborate and support not only each other but also to facilitate the students' development of resilience, despite areas of risk. As with Catts and Petscher's (2022) model, this model is based on the image of a fulcrum with the idea that resilience factors may outweigh the risk factors to support the student in this process.



**Figure 11.3 A new risk-resilience model of dyslexia for musical training**

This model begins with the individual student and the potential risk factors they may experience in learning music (on the left-hand side of the model). The student may also have other vulnerability or adversity factors but for the sake of clarity in the model, only a few common risk areas have been identified. The right-hand side of the fulcrum shows the interactive nature of support between parents, students and the teacher with several resilience factors identified for each role. Finally, resilience factors from external support are

also identified to the right of the fulcrum. At the exosystem and macrosystem levels, external support might be provided in the form of training for teachers and support for students and families through music hubs, organisations and music exam boards.

One of the key resilience factors derived from this model is the need for teachers who have been equipped with high-quality pedagogical training. This would require an understanding of the knowledge and skills needed for teachers to improve their practice and enhance their teaching, not only for dyslexic students but for a diverse range of students. This resilience factor is amplified and expanded in a separate ‘Knowledge and Practice Standards’ document (Section 11.7.1) which collates the findings from the literature and this research study.

### **11.7.1 Knowledge and practice standards for teachers of music: Rationale**

Dyslexia is a highly complex specific learning difficulty which affects from between 3-7% (Rutter et al., 2004, Snowling & Melby-Lervåg, 2016) and 17-21% (Ferrer et al., 2015) of the English-speaking population, depending on the criteria which are used. The breadth of variability in the characteristics and degrees to which dyslexia presents mean that a high proportion of dyslexics go undiagnosed (Shaywitz, 2005, Snowling et al., 2020). As a result of negative educational experiences and stigma, secondary traits of dyslexics include low self-esteem (Livingston, Siegel & Ribary, 2018; Ridsdale, 2005) and vulnerability to a state of ‘learned helplessness’ (Peterson, Maier & Seligman, 1993, p. 8). It is generally agreed that dyslexia is not caused by one specific variable, but is influenced by a number of factors, in a ‘multi-deficit model (MDM)’, or what might be called a ‘multiple factors model’ in a shift away from a deficit-focus (McGrath et al., 2020, p. 10).

A refined understanding of the multiple deficits associated with other neurodevelopmental disorders has the potential to support individually tailored interventions that may ultimately be more successful than “one-size fits all” approaches. (McGrath et al., 2020, p. 9)

Dyslexic students may also struggle with auditory and visual processing, sequencing, working memory, spatial awareness, motor coordination, organisation and symptoms of visual stress (Rose, 2009; BDA, 2024: Oglethorpe, 2002). With many of the skills needed to learn to read music corresponding to the difficulties associated with dyslexia, students and instrumental teachers may find the experience challenging. At the same time, instrumental music teachers

have the opportunity to create a more positive learning experience for dyslexic students. The findings of the research study of this thesis suggest that teachers perceive there is a lack of research, training and resources to support their teaching of dyslexic students (Chapter 6). This might lead to assumptions and misapplication of strategies which could mean detrimental outcomes for the student. It is crucial that instrumental music teachers have access to high-quality, accessible music training.

Music is inherently a multisensory activity, combining auditory, visual and kinaesthetic sensory information in a coordinated effort. With the complexities of dyslexia, any number of factors might disrupt the learning process from processing, attention or coordination, just to name a few. These difficulties might appear by themselves or in a cluster. This highlights the need for specialised instruction, which is tailored to the individual student, ideally supported by a framework such as Universal Design for Learning (CAST, 2018) as well as the new risk-resilience model created for this thesis (Figure 11.3) and by the Knowledge and Practice Standards document (Table 11.2). Along with an understanding of lesson preparation, teachers might benefit from an understanding of dyslexia and co-occurring conditions, current research and implications, effects on music learning, how to develop a student profile, strategies designed to mediate the challenges, approaches designed to support the student's metacognition, a strengths-focus to the planning and implementation of these strategies and most importantly, an emphasis on building rapport with the student. In supporting the interactions between students, teachers and their parents, a set of Knowledge and Practice Standards for Dyslexia: Music Education, adapted from IDA (2018) has been created and is presented in the next section (see Table 11.2).

### **11.7.2 Knowledge and practice standards: Adapted from IDA (2018)**

These knowledge and practice standards (Table 11.1) have been adapted from the 'Knowledge and Practice Standards for Teachers of Reading' document which can be accessed at the 'International Dyslexia Association. (2018). Knowledge and Practice Standards for Teachers of Reading'. The complete document (Pages 1-41) is included for context in Appendix P of this thesis. The summary table (pages 9-11 of the IDA KPS document) is included here for reference and to show how the Knowledge and Practice Standards for Teachers of Music was adapted

from it for this thesis<sup>46</sup>. The summary table<sup>47</sup> consists of five main standards or content domains, and underneath these are numbered knowledge standards with a brief description of how they might be 'observed, tested or applied' (IDA, 2018, p. 8). The content domains include:

- Standard 1: Foundations of Literacy acquisition
- Standard 2: Knowledge of Diverse Reading Profiles, Including Dyslexia
- Standard 3: Assessment
- Standard 4: Structured Literacy Instruction
- Standard 5: Professional Dispositions and Practices

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<sup>47</sup> International Dyslexia Association Knowledge and Practice Standards for Teachers of Reading. Retrieved on April 30, 2024 from <https://dyslexiaida.org/knowledge-and-practices/>

<b>Knowledge and Practice Standards for Teachers of Reading</b> <b>Summary Table</b> <i>Does Not Include Knowledge and Practice Examples</i>	
<b>Standard 1: Foundations of Literacy Acquisition</b>	
1.1	Understand the (5) language processing requirements of proficient reading and writing: phonological, orthographic, semantic, syntactic, discourse.
1.2	Understand that learning to read, for most people, requires explicit instruction.
1.3	Understand the reciprocal relationships among phonemic awareness, decoding, word recognition, spelling, and vocabulary knowledge.
1.4	Identify and explain aspects of cognition and behavior that affect reading and writing development.
1.5	Identify (and explain how) environmental, cultural, and social factors contribute to literacy development.
1.6	Explain major research findings regarding the contribution of linguistic and cognitive factors to the prediction of literacy outcomes.
1.7	Understand the most common intrinsic differences between good and poor readers (i.e., linguistic, cognitive, and neurobiological).
1.8	Know phases in the typical developmental progression of oral language, phoneme awareness, decoding skills, printed word recognition, spelling, reading fluency, reading comprehension, and written expression.
1.9	Understand the changing relationships among the major components of literacy development in accounting for reading achievement.
<b>Standard 2: Knowledge of Diverse Reading Profiles, Including Dyslexia</b>	
2.1	Recognize the tenets of the (2003) IDA definition of dyslexia, or any accepted revisions thereof.
2.2	Know fundamental provisions of federal and state laws that pertain to learning disabilities, including dyslexia and other reading and language disability subtypes.
2.3	Identify the distinguishing characteristics of dyslexia.
2.4	Understand how reading disabilities vary in presentation and degree.
2.5	Understand how and why symptoms of reading difficulty are likely to change over time in response to development and instruction.
<b>Standard 3: Assessment</b>	
3.1	Understand the differences among and purposes for screening, progress-monitoring, diagnostic, and outcome assessments.
3.2	Understand basic principles of test construction and formats (e.g., reliability, validity, criterion, normed).
3.3	Interpret basic statistics commonly utilized in formal and informal assessment.
3.4	Know and utilize in practice well-validated screening tests designed to identify students at risk for reading difficulties.
3.5	Understand/apply the principles of progress-monitoring and reporting with Curriculum-Based Measures (CBMs), including graphing techniques.
3.6	Know and utilize in practice informal diagnostic surveys of phonological and phoneme awareness, decoding skills, oral reading fluency, comprehension, spelling, and writing.
3.7	Know how to read and interpret the most common diagnostic tests used by psychologists, speech-language professionals, and educational evaluators.
3.8	Integrate, summarize, and communicate (orally and in writing) the meaning of educational assessment data for sharing with students, parents, and other teachers.



<b>Standard 4: Structured Literacy Instruction</b>	
<b>Substandard A: Essential Principles and Practices of Structured Literacy Instruction</b>	
4A.1	Understand/apply in practice the general principles and practices of structured language and literacy teaching, including explicit, systematic, cumulative, teacher-directed instruction.
4A.2	Understand/apply in practice the rationale for multisensory and multimodal language-learning techniques.
4A.3	Understand rationale for/Adapt instruction to accommodate individual differences in cognitive, linguistic, sociocultural, and behavioral aspects of learning.
<b>Substandard B: Phonological and Phonemic Awareness</b>	
4B.1	Understand rationale for/identify, pronounce, classify, and compare all the consonant phonemes and all the vowel phonemes of English.
4B.2	Understand/apply in practice considerations for levels of phonological sensitivity.
4B.3	Understand/apply in practice considerations for phonemic-awareness difficulties.
4B.4	Know/apply in practice consideration for the progression of phonemic-awareness skill development, across age and grade.
4B.5	Know/apply in practice considerations for the general and specific goals of phonemic-awareness instruction.
4B.6	Know/apply in practice considerations for the principles of phonemic-awareness instruction: brief, multisensory, conceptual, articulatory, auditory-verbal.
4B.7	Know/apply in practice considerations for the utility of print and online resources for obtaining information about languages other than English.
<b>Substandard C: Phonics and Word Recognition</b>	
4C.1	Know/apply in practice considerations for the structure of English orthography and the patterns and rules that inform the teaching of single- and multisyllabic regular word reading.
4C.2	Know/apply in practice considerations for systematically, cumulatively, and explicitly teaching basic decoding and spelling skills.
4C.3	Know/apply in practice considerations for organizing word recognition and spelling lessons by following a structured phonics lesson plan.
4C.4	Know/apply in practice considerations for using multisensory routines to enhance student engagement and memory.
4C.5	Know/apply in practice considerations for adapting instruction for students with weaknesses in working memory, attention, executive function, or processing speed.
4C.6	Know/apply in practice considerations for teaching irregular words in small increments using special techniques.
4C.7	Know/apply in practice considerations for systematically teaching the decoding of multisyllabic words.
4C.8	Know/apply in practice considerations for the different types and purposes of texts, with emphasis on the role of decodable texts in teaching beginning readers.
<b>Substandard D: Automatic, Fluent Reading of Text</b>	
4D.1	Know/apply in practice considerations for the role of fluent word-level skills in automatic word reading, oral reading fluency, reading comprehension, and motivation to read.
4D.2	Know/apply in practice considerations for varied techniques and methods for building reading fluency.
4D.3	Know/apply in practice considerations for text reading fluency as an achievement of normal reading development that can be advanced through informed instruction and progress-monitoring practices.
4D.4	Know/apply in practice considerations for appropriate uses of assistive technology for students with serious limitations in reading fluency.
<b>Substandard E: Vocabulary</b>	
4E.1	Know/apply in practice considerations for the role of vocabulary development and vocabulary knowledge in oral and written language comprehension.
4E.2	Know/apply in practice considerations for the sources of wide differences in students' vocabularies.
4E.3	Know/apply in practice considerations for the role and characteristics of indirect (contextual) methods of vocabulary instruction.
4E.4	Know/apply in practice considerations for the role and characteristics of direct, explicit methods of vocabulary instruction.
<b>Substandard F: Listening and Reading Comprehension</b>	
4F.1	Know/apply in practice considerations for factors that contribute to deep comprehension.
4F.2	Know/apply in practice considerations for instructional routines appropriate for each major genre: informational text, narrative text, and argumentation.
4F.3	Know/apply in practice considerations for the role of sentence comprehension in listening and reading comprehension.

4F.4	Know/apply in practice considerations for the use of explicit comprehension strategy instruction, as supported by research.
4F.5	Know/apply in practice considerations for the teacher's role as an active mediator of text-comprehension processes.
<b>Substandard G: Written Expression</b>	
4G.1	Understand the major skill domains that contribute to written expression.
4G.2	Know/apply in practice considerations for research-based principles for teaching letter formation, both manuscript and cursive.
4G.3	Know/apply in practice considerations for research-based principles for teaching written spelling and punctuation.
4G.4	Know/apply in practice considerations for the developmental phases of the writing process.
4G.5	Know/apply in practice considerations for the appropriate uses of assistive technology in written expression.
<b>Standard 5: Professional Dispositions and Practices</b>	
5.1	Strive to do no harm and to act in the best interests of struggling readers and readers with dyslexia and other reading disorders.
5.2	Maintain the public trust by providing accurate information about currently accepted and scientifically supported best practices in the field.
5.3	Avoid misrepresentation of the efficacy of educational or other treatments or the proof for or against those treatments.
5.4	Respect objectivity by reporting assessment and treatment results accurately, and truthfully.
5.5	Avoid making unfounded claims of any kind regarding the training, experience, credentials, affiliations, and degrees of those providing services.
5.6	Respect the training requirements of established credentialing and accreditation organizations supported by CERI and IDA.
5.7	Avoid conflicts of interest when possible and acknowledge conflicts of interest when they occur.
5.8	Support just treatment of individuals with dyslexia and related learning difficulties.
5.9	Respect confidentiality of students or clients.
5.10	Respect the intellectual property of others.

**Table 11.1 International Dyslexia Association Knowledge and Practice Standards for Teachers of Reading (IDA, 2018)**

This framework has been adapted for music (Table 11.2) as, to the researcher's knowledge, no set of standards like this exists for teaching music to dyslexic students. The results of this study strongly indicate the need for teacher training in the knowledge of dyslexia, but also in the application of this knowledge to music pedagogy including the use of specific strategies. The standards are a means of equipping teachers in order to teach dyslexic students more effectively. Another result of this study has been the conceptualisation of music and dyslexia as viewed through a whole systems approach and this new framework, along with the risk-resilience model for musical training, supports the teacher's understanding of parental roles and the emotional well-being of the teacher, student and parent.

There are six levels or standards to this document (Table 11.2). Standard 1 addresses Foundational Dyslexia Knowledge, Standard 2 covers Accessible and Inclusive Teaching, whilst Standard 3 offers Music Pedagogy for Dyslexic Learners. Standard 4 addresses Specific Strategies and Practical Resources. Standard 5 covers Music Exams for Dyslexic Students and Standard 6 addresses the Ethical Issues related to teaching dyslexic students. These standards

may be used as the underpinning for a teacher training course, and are designed so that each level could be extrapolated to specific learning objectives related to the standard. The standards are flexible and adaptable, and would need constant updating in order to keep pace with the research and technology changes. They could be developed further to support teachers of instrumental music teaching in a variety of contexts.

<b>Knowledge and Practice Standards for Teachers of Music</b>	
<b>Summary Table</b>	
<b>Standard 1 – Foundational Dyslexia Knowledge</b>	
1.1	Explain the different definitions of dyslexia
1.2	Describe and summarise dyslexia research in relation to theories of causality
1.3	Identify the primary and secondary characteristics of dyslexia
1.4	Recognise and describe co-occurring conditions
1.5	Summarise relevant connections between music and language
1.6	Explain the principles and purpose of assessments and reports
1.7	Understand the Equality Act 2010 and implications for dyslexic people
1.8	Describe the implications of the social model of disability (Barnes, 2019)
1.9	Explain the assessment process and the components of an assessment report
1.10	Understand principles of instruction which help dyslexic students to develop and improve over time
1.11	Summarise the importance of the learning environment for a dyslexic student
<b>Standard 2 – Accessible and Inclusive Teaching</b>	
2.1	Explain the concepts underpinning Universal Design for Learning (CAST, 2018)
2.2	Explain the usefulness of a risk/resilience framework
2.3	Understand the impact of dyslexia on families, specifically mothers, and ways that teachers might support them
2.4	Recognise the role of a supportive family environment, knowledge of and attitude towards dyslexia as promotive factors
2.5	Describe the benefits of accessible teaching for a dyslexic student
2.6	Explain the relevance of having flexible student profiles
<b>Standard 3 – Music Pedagogy for Dyslexic Learners</b>	
<b>Substandard 3A: Variability in how dyslexia may affect music learning</b>	

Dyslexia may affect music learning in various ways, and the impact can differ significantly from person to person. The following substandards identify some of the variable ways in which a person with dyslexia may be affected.	
3A.1	Provide an overview of the ways in which dyslexia might affect music learning
3A.2	Summarise how rhythm and timing in music learning might be impacted
3A.3	Explain the ways in which pitch and sound processing might be affected
3A.4	Describe the challenges with reading music which may affect dyslexic students
3A.5	Explain how executive function challenges might impact the learning experience: working memory, cognitive flexibility, inhibitory control, sequencing, planning and organisation
3A.6	Describe how other memory systems may be affected
3A.7	Recognise factors affecting coordination, spatial awareness and balance which may be impacted
3A.8	Explain how secondary characteristics of dyslexia may affect students' behaviour and attitude toward learning
3A.9	Describe symptoms indicative of visual stress and how to signpost student and parents to appropriate support
3.2	Understand how literacy instruction principles might be relevant to music instruction
3.3	Understand the potential limits to literacy instruction approaches in the music learning context
3.4	Describe the benefits and use of UDL to plan music lessons
3.5	Summarise the usefulness of music ed. methods (Suzuki, Dalcroze, Kodály)
3.6	Summarise the benefits of a responsive intervention to challenges approach
3.7	Explain the advantages of positive collaboration with students and parents
3.8	Understand the importance of instruction as a protective factor
3.10	Explain the importance and benefits of a strengths-focused teaching approach
<b>Standard 4 – Specific Strategies and Practical Resources</b>	
4.1	Understand general strategies related to music instruction
4.2	Identify common strengths in dyslexic students
4.3	Explain how instruction might strategically develop these strengths
4.4	Understand how to support students with poor organisational skills
4.5	Describe how to motivate students by offering them autonomy in repertoire and activities
4.6	Summarise the types of repertoire that might be useful for dyslexic students

4.7	Describe how to create a bank of method books and repertoire that might appeal to students
4.8	Describe alternative notation strategies and their usefulness for specific students
4.9	Explain how to introduce and utilise alternative notation in lessons
4.10	Demonstrate the use of technology to stimulate learners' interest
4.11	Demonstrate the use of technology to build automaticity and reinforce learning
4.12	Demonstrate the use of technology to modify or adapt scores
4.13	Describe how to create a learning bank of multisensory activities
4.14	Summarise approaches to challenges with sight-reading
4.15	Identify challenges with rhythm and corresponding strategies
4.16	Identify challenges to pitch reading and corresponding strategies
4.17	Identify challenges with coordination and corresponding strategies
4.18	Understand ways of encouraging students' metacognition
<b>Standard 5 – Music Exams for dyslexic Students</b>	
5.1	Understand the motivations that students have for taking graded music exams
5.2	Describe the requirements of different exam boards
5.3	Explain various access arrangements for graded music exams
5.4	Describe the procedure of entering students who need reasonable adjustments
5.5	Understand how to support the student in preparing to utilise reasonable adjustments in the exam setting
5.6	Consider alternatives to graded music exams
5.7	Describe how to manage parental expectations in the area of exams
<b>Standard 6 – Ethical Issues</b>	
6.1	Seek to act in the best interests of the student and their family
6.2	Develop trust in your collaboration with the student and their family
6.3	Maintain confidentiality of records and assessments
6.4	Respect and maintain ethical considerations of the safe storage of data (GDPR requirements)
6.5	Seek communication and action that represents authenticity and openness to change
6.6	Describe the importance of empathic awareness
6.7	Explain the ethical issues involved in teacher advocacy
6.8	Discuss ways to manage lifestyle and working practices to prevent burnout

**Table 11.2 Knowledge and Practice Standards for Teachers of Music: Dyslexia specific**

These standards set forth competencies for becoming a more highly qualified teacher of dyslexic students. As has been discussed, when a teacher feels equipped and supported, this impacts their relationship with the student and their family. A teacher with relevant information about music exams will be able to support the student more effectively in the application and preparation processes involved. The connections between these standards and the risk-resilience model explain areas where communication between teachers, parents and music exam boards might be made more accessible. As parents and teachers are aware of risk factors and ways in which they might help to mediate some of those, the student benefits. These knowledge and practice standards, along with the risk-resilience model, are unique contributions that my research makes to music education through the findings of this research.

### *11.8 Feedback on thesis findings from an evaluative focus group*

As a means of evaluating the thesis findings and generating further perspectives on dissemination, an evaluative focus group was held in 2024. Seven participants with expertise in inclusive music education were invited to participate and were given an information and consent sheet in advance of the meeting. Four individuals agreed to participate, but one was not able to attend the meeting, due to prior commitments. The following participants of the focus group are not anonymised and have given consent for this:

- Andrew Hird, Equality, Diversity and Inclusion Lead, Partnership Manager (Boston and South Holland) Lincolnshire Music Service
- Liz Horobin, chair of the BDA (British Dyslexia Association) music committee and a member of the music subject area group of UKAAF (the UK Association for Accessible Formats), professional practice lead at PATOSS (Professional Association of Teachers of Students with Specific Learning Difficulties)
- Ben Sellers, Inclusion specialist and lead of the MEHEM (Music Education Hubs East Midlands) Uprising project

In advance of the meeting, held on Zoom, participants were sent a brief (See Appendix N) describing the aims and methods of the research project, as well as some questions to consider when evaluating the findings. At the meeting, an overview of the findings of this research, as detailed in this chapter and in Reflective Statements 1-7, was presented by the

researcher. A transcript was generated from the discussion, which was sent to participants to review, and the following themes emerged from the analysis of the transcript. These themes are discussed in greater detail in the following sections: the utility of the use of the term 'dyslexia' as opposed to a more general categorisation of 'neurodiversity' (see 11.8.1), the importance of signposting teachers to accurate information about visual stress, implications of high rates of amusia in children and adults with dyslexia, managing teachers' and parents' expectations of outcomes (see 11.8.2), the balance of verbal and nonverbal communication in lessons, implications for students from more diverse ethnic and socioeconomic backgrounds (see 11.8.3) and the suggestion that dissemination might start by providing a training course for music hub inclusion leads (11.8.4). Feedback clarifying various aspects of an earlier version of the model was offered by participants, and this resulted in the model presented above in Figure 11.2.

### **11.8.1 The utility of the term 'dyslexia'**

One participant in the focus group suggested that the term 'neurodiversity' should replace the use of the term 'dyslexia' in my research. Regarding the use of the term 'dyslexia', recent research (Snowling, 2020; Stein, 2023; Wilmot et al., 2023) indicates that although the term is used relative to differing criteria and there is still some ambiguity as to its cause, it still deserves to be studied and understood separately from the more general discussion of neurodivergence. Morrow (2023) uses the more general term of 'learning disabilities', representing the view in which it is seen as a disorder. Upon undertaking this research, I realised that I would need to clarify my use of the term. I did this in presentations and workshops by positioning dyslexia with a number of other learning differences, such as dyscalculia, dysgraphia, dysmusia, dyspraxia/developmental coordination disorder under the wider umbrella of neurodivergence. My rationale for doing this was to acknowledge the high incidence of co-occurring conditions within the dyslexic population but also to clarify that I was not referring to other aspects of neurodivergence, for example, autism or Tourette syndrome, in my study. This further confirms the complexity of dyslexia and the need for more research to clarify the term but also raises the question of the utility of the label of dyslexia for educational purposes. This issue has been debated for a number of years (Elliott & Grigorenko, 2014; Gibbs & Elliott, 2020).

### **11.8.2 Managing expectations through a variety of outcomes**

A participant in the focus group questioned whether the teachers interviewed considered alternative outcomes to attainment standards set, for example, by graded exams. The importance of outcomes based on progress, although those might be different to other students in a classroom or a teaching practice, and the impact of positive outcomes on self-esteem or non-musical goals has been emphasised in these research findings. This links to a need for teachers' flexibility and adaptability as a means of incorporating an inclusive teaching approach in their practice. Reflective Statement 4 discusses my development in reducing the number of verbal instructions and my proximity to the student, which had the impact of improving students' metacognitive skills and relates to the importance of reducing distraction in the learning environment.

### **11.8.3 Implications for students from diverse backgrounds**

One of the limitations of this research (discussed in Chapter 12) is that my students were similar in age, sex and socioeconomic background. An attempt to mitigate this was made by interviewing students from a variety of backgrounds and ages, but as noted by my focus group participants, it might be useful to explore these findings in more diverse contexts and with participants of different ages and genders from a wider variety of cultural and socioeconomic backgrounds, thus extending research to a wider group of teachers and their students and families.

### **11.8.4 Potential routes for dissemination**

Music hubs are currently (as of April 2024) undergoing restructuring, with a greatly reduced number of hubs (from 116 to 43) taking the role of lead hubs from September 2024 (Daubney, 2023). As suggested in the focus group, one means of disseminating this research might be through training targeted at music hub inclusion leads. A participant stated 'For me, the outcome of your research is kind of a thorough, comprehensive training of the nation's instrumental teachers of dyslexia'. By providing the inclusion leads with training, they would be able to support the music educators in their geographical area.

The challenges to this proposal might be enlisting broader support from music hubs with the logistics and costs involved. At this point, the research has been shared in two workshop settings, at the Northwest Music Hubs Music Mark conference (September 2023) and Music



Education Hubs East Midlands (MEHEM Uprising) in January 2024. Additionally, the research has been presented as part of a session on inclusive music teaching for undergraduate students at the University of York (2023-2024), as well as a 'Music and dyslexia' session to cohorts on the MA Music Education: Instrumental and Vocal Teaching pathway (2019-2024). Some participant feedback, as might be collected anonymously to evaluate the delivery and content of these sessions, has been collected (See Appendix O). The feedback indicates that participants found the sessions useful and it correlated with their desire to improve knowledge and teaching techniques, as well as to develop a better understanding of the needs of dyslexic students. By including the risk-resilience model for musical training (Figure 11.3) and utilising the standards framework (Table 11.2) within training, as well as further findings from this research, teachers could be supported in working with dyslexic students and their families, further informed as to relevant aspects within external structures of assessment as provided by music examination boards and aided in working with schools to support learners.

# Chapter 12 SUMMARY OF THE STUDY, LIMITATIONS, IMPLICATIONS AND RECOMMENDATIONS

## *12.1 Summary of the study*

By building on the previous chapters in this thesis, Chapter 12 revisits and summarises the findings in response to the main research questions. Furthermore, it discusses the implications which result from this research and articulates possible limitations. The concluding sections present recommendations for future research in music education and dyslexia. This research aimed to improve and enhance instrumental music teaching for dyslexic students. The underlying research questions were:

Research question 1: What are the perceptions of music teachers regarding their experiences and utilisation of pedagogical practices, including strategies, methods and material, in teaching dyslexic students?

Research question 2: Do adjustments and accommodations which music exam boards allow offer dyslexic students unbiased inclusion? What are the perspectives of teachers and students on this topic?

Research question 3: Do teachers, parents and students perceive dyslexic students to have specific strengths? How might these strengths be utilised in the music lesson context?

Research question 4: What are dyslexic students' perceptions of their music learning experiences? How might their voices be nurtured and amplified in the pedagogical process?

Research question 5: What are the teacher, student and parental perceptions of the pedagogical process and roles in the music lesson context? How can these roles collaborate to collectively enable positive outcomes?

Though there is an increase in literature relating to special educational needs (SEND) in music education (Welch et al., 2009; Hammel et al., 2016, Culp & Salvador, 2021) and limited literature related to music education and dyslexia (Flach et al., 2004; Daunt, 2012; Ganschow et al., 1994; Heikkila & Knight, 2012; Hubicki & Miles, 1991; Oglethorpe, 2008; Macmillan,

2005; Miles et al., 2008; Morrow, 2023; Nelson & Hourigan, 2016; Vance, 2004), relatively little material exists to address these specific questions, and research which accounts for the voice of the student with dyslexia in music education is scarce. Furthermore, the limited literature focusing on music education dyslexia research suggests that learning music appears to be regarded as less valuable than learning to read text, although research examining music as a to promote literacy with dyslexic students is becoming more prevalent (Cancer & Antonietti, 2022; Forgeard et al., 2008; Huss et al., 2011; Lorenzo et al., 2014; Overy, 2003; Moritz et al., 2013). However, research also shows that music may have benefits on a variety of levels: socially, emotionally and cognitively (Cooper, 2020; Hallam & Himonides, 2022; Kivijärvi & Poutiainen, 2020).

Accordingly, this project of action research investigated the teaching of two piano students with a formal assessment of dyslexia in the one-to-one lesson context in my teaching practice. Drawing on a literature review of dyslexia and music education and initial lessons with dyslexic students in my teaching practice, these research questions were formulated. Data was collected from an exploratory questionnaire investigating dyslexic students' perceptions of graded music exams. The questionnaire findings indicated a number of areas for further investigation. Semi-structured interviews with a small number of music teachers informed further interviews with a larger group of teachers and illuminated areas of focus for my teaching practice. Data was also gathered from interviews with the parents of the students in my piano teaching practice, in addition to insights from other parents of dyslexic students. Although the initial conception of the research project included more than two dyslexic piano students, the Covid-19 pandemic was a limiting factor in recruiting new students. In order to gain multiple perspectives from different ages and backgrounds, a group of dyslexic individuals with music lesson experiences were interviewed. Analysis of reflective observations from lessons with 'Alex' and 'Ben', supported by video recordings and informed by literature and the interviews, provided data across a number of school terms.

The overall picture emerging from the data indicates a need for greater awareness of dyslexia and training for music teachers in teaching dyslexic students. Furthermore, the findings emphasise that dyslexia does not need to be a barrier to learning about and making music. Rather, these findings appear to demonstrate that negative attitudes and constructs of dyslexia as a deficit, as well as non-inclusive and inflexible exam and educational systems, are

the main obstacles to a high-quality music education experience for dyslexic students. This research reinforces the importance of parental support and the value of positive relationships between teacher-student and parent as promotive factors to mediate risk factors for dyslexic students.

## *12.2 Reviewing the research questions*

### **12.2.1 (RQ1) What are the perceptions of music teachers regarding their experiences and utilisation of pedagogical practices, including strategies, methods and material, in teaching dyslexic students?**

It emerged from the data that negative perceptions of dyslexia outweighed positive perceptions. Misinformation related to dyslexia as a condition and assumptions related to effective teaching strategies were prevalent. Instrumental music teachers often work in isolation and may obtain information from informal routes, although this information may not be research-led. Pedagogical training and support needs were acknowledged and a number of barriers to successful music education for students with dyslexia were noted. Knowledge of dyslexia amongst teachers was correlated with a wider range of strategies, most of which were created by authors of pedagogical material and adapted from strategies used in literacy training. It emerged from this study that specific applications of technology might be beneficial for dyslexic students, particularly those which enable them to compose music and allow for audio playback, to change and adapt scores, and to focus on increasing automaticity with specific aspects of music such as note or pitch recognition, rhythm or music terminology. The high variability of characteristics in dyslexic individuals across the spectrum of neurodivergence, often accompanied by co-occurring conditions, meant that the significance of a flexible approach and sensitivity to individual student needs is needed.

### **12.2.2 (RQ2) Do adjustments and accommodations which music exam boards allow offer dyslexic students unbiased inclusion? What are the perspectives of teachers and students on this topic?**

From the starting point of a lack of research related to dyslexic students' use of graded music exams, indications from this research further illuminate the need for teacher awareness and training. When dyslexic students are prepared in advance to make the best use of reasonable adjustments which remove barriers created by their specific challenges in an exam with an examiner who is sensitive, the experience is considered to be inclusive. Teachers found that

the repertoire demands and specific components of exams were disadvantageous for dyslexic students, although they tended to choose exams from different boards depending on the students' needs. However, findings indicate that teachers and students find barriers in obtaining relevant, accessible information from exam boards. This highlights a need for resources to increase awareness of access arrangements and reasonable adjustments, as well as how teachers might prepare students to utilise them effectively during the exam.

### **12.2.3 (RS3) Do teachers, parents and students perceive dyslexic students to have specific strengths? How might these strengths be utilised in the music lesson context?**

Whilst research acknowledges strengths in dyslexia in many areas, for example in entrepreneurial activities, creativity, empathy, resilience and reasoning strengths, scholarship lacked exploration of how these strengths might be utilised in the music lesson context. Despite many participants' focus on the challenges of dyslexia, this research showed that teachers, parents and students with dyslexia recognise specific strengths related to music learning in dyslexic students. It emerged that aural strengths, narrative, interconnected and dynamic reasoning, vivid imagination, creativity, performance-related capabilities and resilience were areas which could be developed and encouraged in lessons. The importance of developing a holistic framework upon which to systematically develop musical concepts was emphasised. The ability to persist in the face of difficulty is needed to sustain repetitive practice over an extended period. Communicating with an audience and playing effectively with an ensemble rely on taking into account another person's perspective and being able to predict the responses of others, or empathy. Connecting with others through mutual understanding is a beneficial performance strength. Many teachers recognise these strengths as compensatory mechanisms for the challenges that dyslexic students experience with sight-reading and poor working memory.

The utilisation of these strengths in the music lesson context was explored in greater detail in Reflective Statements 5 and 6. The development of flexible learning profiles with lesson planning and strategies informed by Universal Design for Learning (CAST, 2018) and in collaboration with the student, provided a foundation to identify strengths as well as consider how to remove barriers to learning. The development of a positive relationship with the students, by encouraging their efforts and inviting them to participate in a process of self-

reflection to identify the strategies and methods they found successful, was seen to increase motivation and engagement in the students in my teaching practice.

#### **12.2.4 (RS4) What are dyslexic students' perceptions of their music learning experiences? How might their voices be nurtured and amplified in the pedagogical process?**

The perspectives of dyslexic students on their music learning experiences highlight an ability to develop their own ways of learning when empowered and enabled to do so in an environment of empathy, support and compassion. Unfortunately, the results of this research indicate that inflexible curriculum requirements, teachers' lack of adaptability and awareness of accurate knowledge about dyslexia, including potential strengths, often act as impediments in this process. Furthermore, these experiences impact on a student's emotional and mental well-being, with some students displaying disruptive behaviour or hiding their difficulties as a coping mechanism in response. The importance of a teacher's role and their development of empathic awareness to create an environment in which the student might flourish cannot be overemphasised. This lends further support for a programme of teacher training with a focus on developing teachers' knowledge about dyslexia, an understanding of a flexible framework (such as UDL) for lesson planning in addition to teaching methods and approaches which are beneficial for dyslexic students.

#### **12.2.5 (RS5) What are the teacher, student and parental perceptions of the pedagogical process and roles in the music lesson context? How can these roles collaborate to collectively enable positive outcomes?**

The following findings emerged from examining the interrelationships between teacher-student-parent. An understanding of the impact of dyslexia on families was a significant factor in being able to relate, as an instrumental teacher, not only to students with dyslexia but also to their parents, who may also in some cases be dyslexic. Knowledge and power imbalances were acknowledged; teachers are somewhat dependent on information being shared by parents regarding assessments or concerns. This includes recognising the effects of past negative educational experiences and how they might influence the parental relationship with their child and communication with the teacher. In order to develop relationships with parents, teachers would benefit from acknowledging the emotional burdens borne by parents, particularly mothers, as they assume roles of advocates and negotiators with schools and teachers in addition to the costs of assessment, extra tuition and assistive technology.

Students reported that some teachers gave them extra free tuition and credited success in exams or performance to this.

Furthermore, to access reasonable adjustments and accommodations at school, a formal assessment is required. Obtaining adequate information about reasonable adjustments from music exam boards was time-consuming; knowledge and time are needed to prepare students with dyslexia in the effective use of these reasonable adjustments for music exams as well as school exams. These extra costs are not recognised in the current music provision services and thus are often assumed by teachers and parents. Several risk factors have been identified that impact parental support (adversity and vulnerability factors) including low socioeconomic status, the ability to provide educational resources, assessment costs and exposure to music resources such as instruments or tuition.

Parents require accurate knowledge of dyslexia and how it might affect the student's learning and their legal rights, confidence in their abilities to advocate for students, patience and availability for meetings and the SEN process. Parents, if dyslexic themselves, may require support when faced with the practical or emotional hurdles of their child's challenges and may struggle to help them. They might also find accessing information and filling in text-based forms difficult.

Schools and teachers need an understanding of possible causes of underlying behavioural issues with dyslexic students, accurate knowledge of the use of reasonable adjustments and accommodation and good communication with parents. Factors that support resilience emerge as parental knowledge of dyslexia and how it may affect the student's learning, effective strategies for dealing with organisation or attention challenges, recognising internalising and externalising behaviours and understanding their child's learning profile. If the parent is dyslexic, they may need to keep an open mind about how dyslexia may affect their child differently. Sharing knowledge with the teacher and an openness to partnership with the teacher might enhance the learning process for their child. Finally, by celebrating and praising effort, the parent has the possibility of encouraging their child, in addition to positively promoting role models with dyslexia.

## *12.3 Summary of my development as a teacher and researcher*

I return to McNiff's (2004) fundamental questions of action research here:

1. How do I improve what I am doing?
2. How do I help you to learn?
3. How do I improve what I am doing for our mutual benefit? (p. 19)

### **12.3.1 Development through analysis of reflective observations**

Within Bronfenbrenner's (1979) model (See Reflective Statement 1), the innermost rings, the micro and mesosystems, represent my interactions with my students, their families, and my supervisor. At these levels, analysis of reflective observations, with a broader perspective informed by literature and data collected, led to an evaluation of larger themes. Reflective Statements 1-3 gave context to my position as the researcher, to the students and our lesson environment. The challenges experienced in my teaching practice with dyslexic students motivated this research. Adversities faced during the Covid-19 pandemic and as the result of researching my own teaching practice were described. The reflective statements describe transitional developments regarding power and knowledge balances (RS4), the use of Universal Design for Learning (CAST, 2018) as a framework for lesson planning, selecting strategies from the literature and developing tacit knowledge in the process (RS5), from deficit to strengths-based approaches (RS6) and the need for empathic awareness and the prevention of compassion fatigue, or burnout, (RS7). I describe transitions in my attitude toward dyslexia and my approaches to teaching that occurred over the course of this research. There are a number of teaching strategies which I began to use in this research which I believe have enhanced my teaching for all pupils. My understanding and use of Universal Design for Learning (CAST, 2018) for lesson planning was developed, and I began considering and implementing accessibility principles for all students in my teaching practice.

### **12.3.2 Development of professional practice**

Kember (2002) notes that other outcomes gained through action research might include the 'development of skills, changes in attitudes and the development of revised practices' (Kember, 2002, p. 92). I experienced growth in my understanding of the subject knowledge of music and dyslexia, in knowledge of strategies and the expertise of using them appropriately



(see Reflective Statements 4, 5). There was considerable professional development in my roles as a reflective practitioner and action researcher. Having researched and considered the methodology for this research, I realised that knowledge was socially constructed and arose from the meaning I interpreted from interactions (see Chapter 3). The process of preparing ethical materials for research (see Appendices A-D) allowed me to develop a greater awareness of ethical issues related to research. I attended fourteen research and teaching-focused sessions through the University of York's Building Research and Innovation Capacity Team (BRIC) on topics such as searching for literature, managing data, public engagement, thesis preparation and teaching and learning in Higher Education.

I learned to put data collection methods into practice and developed a number of new skills: designing a survey, interviewing participants, transcribing interviews, video editing, and facilitating a focus group meeting with stakeholders (Chapter 3). At the analysis stage, my understanding of how to organise, code and interpret data was enhanced; I also developed an appreciation for the importance of iteration in this process. Through becoming an Associate Fellow of the Higher Education Academy (2020), I further developed my skills as a reflective practitioner and writer. Additional work as a graduate teaching assistant on the MA Music Education: Instrumental and Vocal Teaching supported my critical analysis skills through the process of marking submissions, both written and lesson videos, according to set criteria. This role also provided further opportunities to develop my teaching skills in small group settings, as well as whole cohort sessions. The opportunity to present seminars to both undergraduate and graduate students at the University of York enabled me to gain experience in developing workshops and delivering presentations effectively; this process was supported by evaluative feedback from my supervisor and session participants. It was also useful that the sessions were developed over a number of years and this helped me to incorporate feedback on delivery and presentation in an iterative process, similar to the process followed in my research.

The following list details various opportunities for sharing an awareness and understanding of my research at the exosystem and macrosystem levels, or areas external to my teaching practice.

## **1. Research presentations**

- a. Presentation at upcoming British Dyslexia Association International Conference (June 2024)
- b. National Conference for Keyboard Pedagogy, USA (June 2023)
- c. British Dyslexia Association Virtual Conference on Core Skills and Creativity (March 2023)
- d. Society for Education and Music Psychology conference (September 2022)
- e. British Dyslexia Association International Conference (May 2021)
- f. International Society for Music Education (August 2020)
- g. European Dyslexia Association's Autumn Research Seminars at Linnaeus University, Sweden (September 2019)

## **2. Workshops and panel**

- a. Upcoming presentation York Music Hubs (September 2024)
- b. Music Mark T-Time provocation on inclusive teaching (2024)
- c. Music Education Hubs East Midlands (MEHEM Uprising) for inclusion leads and practitioners (January 2024), Invited to: York Music Hub (2024)
- d. Music Mark Northwest Music Hubs conference (2023)
- e. Music Mark national conference (2023): Panel on inclusivity in music education

## **3. Consultancy roles**

- a. Associated Board of the Royal Schools of Music (2022) – reviewing Figurenotes (Drake Music Scotland) material for a new project to include alternative notation systems for graded music exam syllabi

## **4. Committee member**

- a. British Dyslexia Association music committee (2020 - present)

The workshops and teaching experiences were particularly helpful, as participants' feedback (see Appendix O) further reinforced the need for the findings of my research to be disseminated. This motivated me to adapt and refine Catts and Petscher's (2022) risk-resilience model to a new model (Figure 11.3) as a tool to help teachers, parents and dyslexic students, music hubs, schools and music organisations to collaborate in supporting one another in the area of music education. As one of the resilience factors is an equipped and adequately knowledgeable teacher, this provided further impetus for the development of the

Knowledge and Teaching standards (Table 11.2) as a foundational tool of assessable objectives for a teacher training programme.

### *12.4 Limitations*

This study has followed the approach of action research with data being collected and analysed from a variety of sources to obtain multiple perspectives. Rich description was provided from the analysis of reflective observations of lessons in my own teaching practice, interviews with parents, teachers and students with dyslexia and from the literature. The period of the Covid-19 global pandemic was a limiting factor in terms of the recruitment of participants and also impacted the way lessons were conducted, including the format and my proximity to the students.

One limitation related to the results of this research is the acknowledgement that the responses of teachers/parents/students may have been influenced by existing literature on the topic. This effect, known as confirmation bias, is described as 'seeking or interpreting evidence in ways that are preferential to existing beliefs, expectations, or hypotheses' (Nickerson, 1998, p. 175). Participants may have viewed literature as representative or normative and formed perceptions that were not supported by the evidence from reality, but rather confirmed and supported what they believed based on these prior assumptions. Although interviews with participants were semi-structured, questions were asked in an open-ended way and care was taken not to influence the answers based on previous responses from other participants.

There are some limitations in this research which relate to participants in my teaching practice and my role as the teacher. The research was limited to my teaching practice; however, I sought to mitigate this limitation by obtaining views from music students, teachers and parents. In examining their views, I also sought to obtain the perspectives of students of a variety of ages. A greater number of student participants in my teaching practice might have enhanced my understanding; however, some potential participants were uncomfortable with lessons being recorded and analysed for research purposes and their views were respected. Though I was limited to two dyslexic students in my teaching practice, the study covered a period of years. This enabled a longitudinal approach in which there was time to develop an in-depth relationship with my students and their families. Both participants were male and of a

similar age; it would have been advantageous to work with participants of diverse genders, ages and sociocultural backgrounds.

I was also mindful that over a period of time, the students' feelings about lessons being recorded might change and I sought to mitigate this by checking in with them and their families periodically to ensure that they were still comfortable with this. Though the students seemed to enjoy their lessons, it appeared that they did feel uncomfortable or self-conscious at times talking directly about dyslexia and its impact on them even though they both came from homes that were open and positive concerning dyslexia. This may have limited the information that they were willing to share with me. I tried to be sensitive to their needs by adapting my research agenda and at times this meant that we did not record lessons or avoided activities with which they did not want to engage.

There were limitations related to my role as a teacher. The results are based on observational studies and are subject to my bias as a teacher. Also, I was close to the participants and their families in my teaching practice. Inevitably, I was limited by my teacher's lens, often believing and wanting to confirm that what I did was right without examining other possibilities, though this was mediated by my supervisor challenging my critical insights and encouraging further reflective, analytical and research-informed practice. Anderson et al. (2007, p. 162) state that 'Our work takes place in relation to a larger body of knowledge and research that can help us think about and understand our sites and practices but that also is limited in terms of our particular contexts'. In researching my practice, I was not trying to solve problems but rather exploring and accounting for the complexities and ambiguities that I encountered. The results are based on observations from my teaching and may be subject to confirmation and attribution bias as the student's teacher. As noted above, I sought to mitigate this by acknowledging my bias (see Chapter 4) and by taking into consideration other perspectives from my supervisor, colleagues, students and their families and to prioritise their aims and objectives in the lessons. This research was focused on my piano students, but there is scope to explore the connections in the research process to further studies exploring music theory more specifically, and those learning other instruments and voice.

### *12.5 Implications and recommendations for practice and future research*

Various implications arise from this study, but the most important aspects concern supporting an in-depth understanding of the relationships between teachers, parents and students with dyslexia in the music education context as well as raising awareness of the benefits of a strengths-focused approach which is tailored to the individual learner. Despite acknowledging the characteristics of dyslexia that may be regarded as 'weaknesses', these findings also suggest that a personalised approach may benefit students by promoting their confidence, developing their identity and self-concept as a dyslexic person, reducing stigma and empowering them with agency to reach their potential. This approach may also focus and direct the teacher to the student's abilities and may influence their positive attitude towards the learner. Parents, similarly, may benefit from reduced anxiety relating to their child's music education and may have a clearer understanding of the progress they may make.

Another implication from the findings of this research is that although there have been a number of changes to instrumental music exams in recent years, including a shift to performance-only exams during the Covid-19 pandemic, barriers remain. These include the need for ease of finding information about reasonable adjustments and accommodations that can be applied in exams, training for teachers in how to prepare dyslexic students to use reasonable adjustments appropriately, training for examiners and support for parents. Greater versatility in assessments, creating those that relate to student progress rather than attainment might be useful. Another example would be to reduce the number of required pieces for performance assessment and to improve the accessibility of online music theory exams.

These findings highlight the pressures that parents, particularly mothers, face in acting as advocates and negotiators of their child's music education experiences; this begins with the high cost of assessment and follows to include additional burdens of finding a 'dyslexia-friendly' teacher, extra tuition time (if needed), costs associated with assistive technology and other resources. Currently, these costs are not recognised in the music education system; students receive either limited support or none at all from music hubs in the form of additional support such as extra tuition or assistive technology. Therefore, it often falls to individual

teachers to offer free lessons or for parents to meet the cost of these expenses. Additional support for dyslexic students from music hubs is recommended.

These findings suggest that appropriate pedagogical approaches for students with dyslexia may be beneficial; this includes teachers having an accurate knowledge of dyslexia and the assessment process, the strengths and weaknesses a dyslexic student may encounter in learning music, co-occurring conditions and how they may overlap with dyslexia, issues relating to visual disturbances and signposting to relevant professionals, considerations of the learning environment and how to adapt lesson plans and activities in recognition of the variability which can exist amongst dyslexic students. Universal Design for Learning provides a constructive framework for teachers to plan lessons and engage students. Teachers are encouraged to represent the music in a variety of ways and to utilise different methods for how the student puts their knowledge into action. The versatility of music, including the various ways in which it can be transmitted (such as aurally, through modelling and kinaesthetic modes), is particularly useful for students with dyslexia. Sight-reading difficulties, which are prevalent, do not need to prove a barrier to the dyslexic student's progress. This highlights the importance of high-quality training and support for music teachers, which the findings of this research directly support through the new risk-resilience model for music training with dyslexic students and the foundational material for a teacher training course from the Knowledge and Practice Standards for teachers of music (see Table 11.2). These resources offer support in the form of structural documents which identify how collaboration and knowledge might be enhanced.

### **12.5.1 Implications for practice**

As discussed in Chapter 11 (Section 11.8), the logistics and cost involved may be potential impediments to disseminating this research in the form of a training programme for music hub inclusion leads. Other possible pathways of sharing these resources may be through a series of microlearning opportunities on easily accessible sites such as YouTube or Instagram. The model and document created as a result of these findings are currently text-based only, but there are a number of alternative options available for presenting the material in a more accessible manner. These might include audio resources, such as a podcast series, or the use of video, as described above. These resources might be linked to a website including additional

information about suggested method books, repertoire, the use of exam access arrangements and reasonable adjustments, all of which would be presented in an accessible manner.

Additional recommendations might be for music hubs to promote an awareness of dyslexia by highlighting the performances of dyslexic musicians as positive role models. They might also create space for dyslexic students, and their teachers, to share best practices through mentoring projects. Although music organisations and programmes have highlighted musicians with physical disabilities, there seems to be a lack of representation of those with hidden disabilities, like dyslexia. It would be beneficial to have a media campaign with the purpose of promoting awareness and reducing the stigma of dyslexia which prevents some musicians from disclosure in their workplace.

### **12.5.2 Recommendations for future research**

The following recommendations for future research directions deriving from these findings include areas related to pedagogy, support and policy:

- This research has demonstrated how technology might be used to engage dyslexic students in the music lesson context, to build automaticity in pitch and rhythm recognition and to create composition material. Due to the rapidly changing pace of technology, future research might explore the potential of augmented reality or AI (artificial intelligence) in instrumental teaching with dyslexic students.
- The strengths of dyslexia might be studied in different educational settings, for example in secondary schools or higher education, to explore how teaching and assessment practices might be developed to reflect an understanding of these strengths and offer students greater flexibility in the learning process and in representing what they have learned.
- There is scope for further understanding how teachers prepare their students for exams when the student is using reasonable adjustments and access arrangements and for teachers' and exam boards' consideration of best practices in supporting the student.
- Dyslexic students' use of graded music exams is an under-researched area, and the accessibility of online music theory exams for dyslexic students deserves further investigation. This might explore how offering options in the types of questions on the

exam (for example, open-ended questions as opposed to multiple choice questions which have additional reading requirements) might improve their experience.

- Future research might examine ways in which instrumental teachers can explore the potential of creative strengths seen in dyslexic students, by investigating the different forms this may take and informing teachers of potential applications in music education contexts.
- These research findings have highlighted the importance of the mother's role in advocating for their dyslexic children. Research exploring ways that parents obtain and access information may be beneficial for understanding how organisations like the British Dyslexia Association music committee or music hubs might better support them.
- Research with dyslexic instrumental teachers could inform understanding of the needs of these teachers and how they develop and use specific teaching approaches and strategies with their students. This could lead to greater support for dyslexic instrumental teachers and inform pedagogy.

## *12.6 Conclusions*

This research has explored the dyslexic students' voice in the pedagogical process and highlights the importance for teachers in welcoming and facilitating student voice through the co-creation of strategies and methods in the lesson context, supported by a framework like Universal Design for Learning (CAST, 2018) which enables a highly individualised approach. This is consistent with a growing body of literature on the importance of positive relationships and the benefits of developing students' capabilities rather than focusing on their deficits (Armstrong, 2012; Frederickson, 2004; Patson & Waters, 2015; Rappolt-Schlichtmann et al., 2018, Seligman, 2011).

There are a number of vulnerability and adversity factors related to students with dyslexia and their ability to have high-quality music learning experiences. These include challenges with pitch perception, maintaining a steady pulse, reproducing rhythms, motor coordination, spatial awareness and concentration. There are also a number of characteristics related to their disposition and belief systems which might create vulnerabilities including low confidence, poor motivation, limited understanding and use of metacognitive skills as well as a negative identity construct related to dyslexia. However, promotive factors in the form of parental and



teacher support may serve to mediate these risk factors, although this is dependent on the teacher having the skills and knowledge to adequately support the student and their family. External organisations may support this process through offering training, funding support for students and in the case of music exam boards, greater flexibility in the exams and their components.

Parental involvement has the potential to be a valuable form of support for music students (Ang et al., 2023; Creech, 2010). Findings from this study are in line with research which suggests that parental support is a valuable promotive factor in dyslexic students' lives (Catts & Petscher, 2022; Reid, 2016; Ross, 2019; Wilmot et al., 2023). The findings from this research extend an understanding of the potential impact of constructive interactions between parents, teachers and dyslexic students by identifying not only risk factors related to parental support but also various protective and promotive factors. There may be areas of adversity or vulnerability from a socioeconomic perspective which may influence a student's access to instruments, music books and lessons in addition to parents' limited understanding or belief systems about dyslexia, poor communication with schools, lack of confidence to advocate for their child and a lack of understanding of the SEND process and a lack of musical training; however, these may be mediated by additional external support from the teachers, music organisations or music hubs.

But this relies, in part, on the ability of an instrumental music teacher to be sufficiently equipped to recognise these vulnerabilities and knowledgeable enough to be able to offer support to parents and dyslexic students. Thus, the usefulness of the new risk-resilience model (Figure 11.3) is exemplified in describing the synergistic interactions between parents, students and teachers to mediate risk factors and foster resilience, whether this is in the form of protective factors (strengths) for students such as accurate pitch perception, ability to maintain a steady pulse, focused concentration and attention and a strong identity concept, or in the form of parents who are trained musicians and are able to support the student during practice or can confidently advocate for the student in educational settings.

The aim of this research has been to improve and enhance instrumental music teaching for students with dyslexia. In order to do this, training and support needs for instrumental teachers have been identified. A teacher who is equipped to support dyslexic students will

have knowledge of the complexities of dyslexia as well as the implications of different definitions and criteria used to identify and assess dyslexia. They will have an understanding of co-occurring conditions and the impact of these in the music lesson context. They will be knowledgeable about assessment reports and how these might benefit their understanding of how to support a student, as well as the importance of maintaining safe data storage and the importance of confidentiality. An understanding of Universal Design for Learning (CAST, 2018) will enable them to plan lessons with flexibility, adapting materials and methods, including technology, with the goal of sustaining the student's interest and promoting their overall growth in the process. They will be aware of the challenges that a dyslexic student might face in the music learning process and will be aware of general and specific strategies to support them. An equipped teacher will have an understanding of multisensory teaching approaches and a bank of resources and repertoire which support this type of learning. They will understand the importance of a low-arousal learning environment and a collaborative approach in their relationship with the student and parent. By being aware of and acknowledging the challenges that parents and dyslexic students face, the teacher might build empathic awareness and support for the family through authentic and open conversations. An equipped teacher will recognise the signs and understand how to prevent compassion fatigue, or a sense of burnout.

Overall, the results of this study suggest a need for greater research, training and resources for teachers of dyslexic students. Although music and dyslexia literature (Flach et al., 2016; Morrow, 2023; Oglethorpe, 2008; Vance, 2004) has focused on the challenges students face when learning to read music, the findings indicate that when teachers are adequately equipped with knowledge of dyslexia and an understanding of the benefits of a positive and collaborative strengths-focused approach, this will serve to enhance dyslexic students' music learning experiences.

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## *Appendix A*

### **Questionnaire: Dyslexic students' perceptions of music exams**

#### **Information and consent form**

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**Start of Block: Default Question Block**

Q1

#### **Information Sheet**

##### Introduction

I am a PhD candidate from the Department of Music at the University of York who is interested in researching music learning and dyslexia. My goals are to better understand how dyslexic students learn, to improve my piano teaching for dyslexic students as well as to provide resources which other teachers and institutions may find beneficial. I invite you to participate in this research as I believe it may offer a valuable contribution to the knowledge of dyslexia and music.

Please be assured that you are welcome to discuss this with me and to ask for more information and contacts in the field of music and dyslexia which could be provided on request. After you have read through this information and if you agree, then please give your consent in the first question of the survey.

If you have any questions at any time through this process, please contact me at



#### **Purpose**

Through my work as a piano teacher, I came to realise that there was much to learn about providing better lessons for dyslexic students. This has motivated my research. In addition to documenting instrumental lessons, I am interested in how dyslexic students perceive the music exam environment and accommodations that are offered by music exam boards.

#### **Participation**

You have been invited to take part in this research as data you provide may help me to understand how to improve exam situations for dyslexic students in the future. You do not have to agree to participate. The decision may be one that you want to discuss with someone

else. You can ask as many questions as you like and take your time to decide.

### **Procedures**

You will receive the survey through an email link. Once you have agreed your consent to participate, you will answer a series of questions.

### **Duration**

The survey should not take more than 15-20 minutes to complete.

### **Risks and Discomforts**

Some of the questions may pertain to sensitive and personal topics. For instance, it may remind you of an unpleasant experience. You do not have to answer any questions with which you do not feel comfortable. You do not have to provide an answer as to why you refuse.

### **Benefits**

Understanding students' perceptions of music exam accommodations will help me to have a more profound understanding of whether or not students' feel they are fair or effective. This may lead to recommendations which may improve accommodations offered or information provided about the accommodations.

### **Confidentiality**

The survey will be conducted in a way that participants remain anonymous.

### **Sharing of Research Findings**

Research findings may be shared in a timely fashion in journals or conferences but with complete confidentiality maintained. It is my hope that these findings will be applicable and relevant to other interested people who may wish to learn from my research.

### **Right to refuse or withdraw**

You have every right to refuse or withdraw from the research without the need to offer an explanation for the refusal. Your concerns and wishes will be taken very seriously.

### **Who to Contact**

If you have any questions, you may ask them now or later, even after the research has started. This research has been approved by the University Ethics Committee, a group whose task it is to make sure that research participants are protected from harm. For further information, you may contact:

Kristl Kirk

PhD Candidate  
Department of Music  
University of York

[REDACTED]

[REDACTED]

Or my supervisor:

Dr. Liz Haddon  
Department of Music  
University of York

[REDACTED]

---

Q2 Please click to indicate that you consent to the following:

- I have read the information sheet and understand the content. I understand that as guardian to a minor child I may assist them in completing this survey. (5)
- I understand that the purpose of this survey is to better understand dyslexic students' perceptions of music exam access arrangements and reasonable adjustments. (8)
- I understand that my responses are anonymous and will only be used for the purposes of this research. (10)
- I consent voluntarily to participate in this research study which I understand involves completing a survey. (3)

*Skip To: End of Survey If Please click to indicate that you consent to the following: != I have read the information sheet and understand the content. I understand that as guardian to a minor child I may assist them in completing this survey.*

---

## *Appendix B*

### **Information and consent forms for parents/guardians of minor participants**

Kristl Kirk

PhD candidate

Department of Music, University of York

Heslington, York YO10 5DD

#### **Information Sheet and Consent Form for Parents/Guardians of Minor Participants**

This information/consent form is for parents of minors who have been invited to participate in the research entitled 'Decoding Music Education with Dyslexic Students: An action research project examining student, teacher and parental interactions in the context of instrumental lessons'.

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you agree that your child may participate)

You will be given a copy of the full Informed Consent Form.

Part 1: Information Sheet

Introduction

I am a PhD candidate from the Department of Music at the University of York who is interested in researching music learning and dyslexia. My goals are to better understand how dyslexic students learn, to improve my piano teaching for dyslexic students as well as to provide resources which other teachers and institutions may find beneficial. I invite your child to participate in this research as I believe they may offer a valuable contribution to the knowledge of dyslexia and music.

As their parent/ guardian, I am sure that you will have concerns. Please be assured that you are welcome to discuss this with me, and also welcome to ask for more information and contacts in the field of music and dyslexia which could be provided on request. You may take time to reflect on whether or not you would like your child to participate. After you have read through this information and if you agree, then the next thing I will do is ask your child for their permission.

If you have any questions at any time through this process, please contact me at

[REDACTED]

**Purpose**



Through my work as a piano teacher, I came to realise that there was much to learn about providing better lessons for dyslexic students. This has motivated my research. In this study, I will make observations of lessons, record lessons on videotape and ask students questions which will enable me to understand how they learn. The research will take place in the context of piano lessons and students will be invited to share their views in a relaxed way. Lesson planning will be guided by their goals in learning to play the piano.

## **Participation**

Your child has been invited to take part in this research as monitoring their learning in piano lessons may enable us to understand and better tailor lessons for them and other dyslexic students in the future. You do not have to agree to your child's participation. The decision may be one that you want to discuss together. You can ask as many questions as you like and take your time to decide.

## **Procedures**

- **The following only applies to piano lessons:**

Lessons will take place in my home or at the University of York. Before lessons take place, the student and the parent will ideally have a short, informal interview with me. That will be discussed in the next point. This may help me to better understand their goals in learning to play. If your child feels uncomfortable answering any questions during the lesson or in how they are asked to carry out an activity in the lesson, they are free to tell me. We will move on to another activity. The video-tapes and observations made during lessons are confidential and anonymous and will be seen only by myself, members of the University of York Music Department and a selected group of dyslexia specialists. The video-tapes will be kept in a password-protected Google Drive and will be destroyed after 10 years.

- **The following applies only to interviews:**

If your child does not wish to answer any questions during the interview, he/ she may tell me and I will move on to the next question. I will seek to ensure that the child is comfortable and relaxed, and the only people present will be the interviewer (myself) and the child, unless they wish for someone else to be present. The information recorded will be viewed by myself, members of the University of York Music Department and a selected group of dyslexia specialists.

## **Duration**

The interviews and lessons will be outside of school/work hours. Initially, there will be an interview to assess the student's prior learning experiences, any information on their learning profile and their musical interests. After a series of lessons, another follow-up interview will be scheduled. Lessons are generally booked for half-hour sessions, although this depends on the age and level of the student. This may be something which we will agree to through discussion, depending on what is best for the student. It would be ideal if lessons could continue for a longer period of time (18 months- 2 years), however I do want to reassure you that you and your child can withdraw from the research at any point.

## **Risks and Discomforts**

My goal will be to make the student as relaxed and comfortable during the course of the interview and the lessons. Some of the questions may pertain to sensitive and personal topics. For instance, it may remind them of an unpleasant experience in school. I will make it clear to your child that they do not have to answer any questions or participate in any activity with which they do not feel comfortable. Your child will be made aware that they do not have to provide an answer as to why they refuse. They must also be aware that their responses will not be shared and will remain confidential.

### **Benefits**

First of all, my goal is that your child will enjoy piano lessons and learning about music. I desire to reduce stress during the lesson as much as possible, which is why it is important for me to hear about their learning experiences in the past. I believe that I will improve as a teacher to dyslexic students as I seek to apply recent research to practical learning during lessons. I hope to understand more about your dyslexic child's needs and strengths and that this may bring about an awareness of ways to improve lessons. These lessons may provide contributions to the field of music and dyslexia.

### **Confidentiality**

Each student will be assigned a pseudonym in the research so that they will not be identifiable. The information about your child will only be shared with my supervisor using this pseudonym. Any video-recording will be edited so that participants are not identifiable.

### **Sharing of Research Findings**

Research findings may be shared in a timely fashion in journals or conferences but with complete confidentiality maintained. It is my hope that these findings will be applicable and relevant to other interested people who may wish to learn from my research.

### **Right to refuse or withdraw**

Your child will be asked to agree but has every right to refuse or withdraw from the research without the need to offer an explanation for the refusal. The child's concerns and wishes will be taken very seriously.

### **Who to Contact**

If you have any questions, you may ask them now or later, even after the research has started. This research has been approved by the University Ethics Committee, a group whose task it is to make sure that research participants are protected from harm. For further information, you may contact:

Kristl Kirk, PhD Candidate Department of Music, University of York, [REDACTED]

[REDACTED]

Or my supervisor

Dr. Liz Haddon, Department of Music, University of York [REDACTED]

**PART II: Certificate of Consent**

**Certificate of Consent**

**I have been asked to give consent for my daughter/son to participate in this research study which will involve participating as a student in piano lessons, video-taping and documenting of lessons and an interview. I have read the information. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily for my child to participate as a participant in this study.**

**Print Name of Parent or Guardian \_\_\_\_\_**

**Signature of Parent of Guardian\_\_\_\_\_**

**Date \_\_\_\_\_**

**Day/month/year**

## *Appendix C*

### **Information sheet and consent form participants**

Kristl Kirk

PhD candidate

Department of Music, University of York

Heslington, York YO10 5DD

#### Information Sheet and Consent Form for Participants

This information/consent form is for those who have been invited to participate in the research entitled 'Decoding Music Education with Dyslexic Students: An action research project examining student, teacher and parental interactions in the context of instrumental lessons'.

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you agree that your child may participate)

You will be given a copy of the full Informed Consent Form.

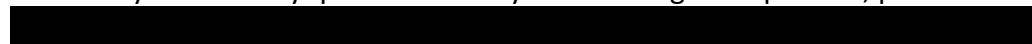
#### **Part 1: Information Sheet**

##### **Introduction**

I am a PhD candidate from the Department of Music at the University of York who is interested in researching music learning and dyslexia. My goals are to better understand how dyslexic students learn, to improve my piano teaching for dyslexic students as well as to provide resources which other teachers and institutions may find beneficial. I invite your child to participate in this research as I believe they may offer a valuable contribution to the knowledge of dyslexia and music.

Please be assured that you are welcome to discuss this with me and to ask for more information and contacts in the field of music and dyslexia which could be provided on request. After you have read through this information and if you agree, then please sign the certificate of consent.

If you have any questions at any time through this process, please contact me at



##### **Purpose**

Through my work as a piano teacher, I came to realise that there was much to learn about providing better lessons for dyslexic students. This has motivated my research. In this study, I will make observations of lessons, record lessons on video-tape and ask students questions

which will enable me to understand how they learn. The research will take place in the context of piano lessons and students will be invited to share their views in a relaxed way. Lesson planning will be guided by their goals in learning to play the piano.

## **Participation**

You have been invited to take part in this research as monitoring your learning in piano lessons may enable me to understand and better tailor lessons for you and other dyslexic students in the future. You do not have to agree to participate. The decision may be one that you want to discuss with someone else. You can ask as many questions as you like and take your time to decide.

## **Procedures**

- **The following only applies to piano lessons:**

Lessons will only take place in my home or at the University of York. Before lessons take place, the student will ideally have a short, informal interview with me. That will be discussed in the next point. This may help me to better understand their goals in learning to play. It will be made clear that if they feel uncomfortable answering any questions during the lesson or in how they are asked to carry out an activity in the lesson, they are free to tell me. We will move on to another activity. The video-tapes and observations made during lessons are confidential and anonymous and will be seen only by myself, members of the University of York Music Department and a selected group of dyslexia specialists. The video-tapes will be kept in password protected Google Drive and will be destroyed after 10 years.

- **The following applies only to interviews:**

If you do not wish to answer any questions during the interview, you may tell me and I will move on to the next question. I will seek to ensure that you are comfortable and relaxed, and the only people present will be the interviewer (myself) and you, unless you wish for someone else to be present. The information recorded will be viewed by myself, members of the University of York Music Department and a selected group of dyslexia specialists.

## **Duration**

The interviews and lessons will be outside of school/work hours. The interview may take about one hour. After a series of lessons, another follow-up interview will be scheduled. Lessons are generally booked for half-hour sessions, although this depends on the age and level of the student. This may be something which we will agree to through discussion, depending on what is best for the student. It would be ideal if lessons could continue for a longer period of time (18 months- 2 years), however I do want to reassure you that you can withdraw from the research at any point.

## **Risks and Discomforts**

My goal will be to make the student as relaxed and comfortable during the course of the interview and the lessons. Some of the questions may pertain to sensitive and personal topics. For instance, it may remind you of an unpleasant experience in school. You do not have to answer any questions or participate in any activity with which you do not feel comfortable.

You do not have to provide an answer as to why you refuse. Your responses will not be shared and will remain confidential.

### **Benefits**

First of all, my goal is that you will enjoy piano lessons and that the learning that takes place is guided by your goals. I desire to reduce stress during the lesson as much as possible, which is why it is important for me to hear about past learning experiences. I believe that I will improve as a teacher to dyslexic students as I seek to apply recent research to practical learning during lessons. I hope to understand more about your needs and strengths and how this may bring an awareness of how to improve lessons. These lessons may provide contributions to the field of music and dyslexia.

### **Confidentiality**

Each student will be assigned a pseudonym in the research so that they will not be identifiable. The information about your lessons will only be shared with my supervisor using this pseudonym. Any video-recording will be edited so that participants are not identifiable.

### **Sharing of Research Findings**

Research findings may be shared in a timely fashion in journals or conferences but with complete confidentiality maintained. It is my hope that these findings will be applicable and relevant to other interested people who may wish to learn from my research.

### **Right to refuse or withdraw**

You have every right to refuse or withdraw from the research without the need to offer an explanation for the refusal. Your concerns and wishes will be taken very seriously.

### **Who to Contact**

If you have any questions, you may ask them now or later, even after the research has started. This research has been approved by the University Ethics Committee, a group whose task it is to make sure that research participants are protected from harm. For further information, you may contact:

Kristl Kirk, PhD Candidate, Department of Music, University of York, [REDACTED]

[REDACTED]

Or my supervisor

Dr. Liz Haddon, Department of Music, University of York, [REDACTED]

**PART II: Certificate of Consent**

**Certificate of Consent**

**I have been asked to give consent to participate in this research study which will involve participating as a student in piano lessons, documentation of lessons through observations and video-taping, and an interview. I have read the information. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.**

**Print Name of Parent or Guardian \_\_\_\_\_**

**Signature of Parent of Guardian\_\_\_\_\_**

**Date \_\_\_\_\_**

**Day/month/year**

## *Appendix D*

### **Information sheet and consent form participants**



## **Decoding instrumental music education for students with dyslexia: An action research project**

### **School of Arts and Creative Technologies**

#### **Participant Information Sheet – Non-Anonymous Interviews Project background**

The University of York would like to invite you to take part in the following project:  
Decoding instrumental music education with dyslexic students: An action research project.

Before agreeing to take part, please read this information sheet carefully and let us know if anything is unclear or you would like further information.

#### **What is the purpose of the project?**

This project is being undertaken by Kristl Kirk [REDACTED] who is a doctoral student at the University of York.

The work is being conducted according to restrictions that have been subject to approval by the ACT Ethics committee. The Chair of the ACT Ethics committee can be contacted on [ACT-ethics@york.ac.uk](mailto:ACT-ethics@york.ac.uk).

For this research project, we are interested in how to better understand how dyslexic students learn and to improve my piano teaching for dyslexic students as well as to provide resources which other teachers and institutions may find beneficial. I invite you to participate in this research as I believe you may offer a valuable contribution in evaluating the findings of my research.



Your participation in this project will involve attending a Zoom meeting which should last no longer than one and a half hours. The meeting will be recorded for the purposes of transcription.

Please note that to comply with the approved Ethics requirements of this work, we do not intend to discuss sensitive topics with you that could be potentially upsetting or distressing. If you have any concerns about the topics that may be covered in the research study, please raise these concerns with the researcher.

Your participation in this project is voluntary. If you wish, we will provide you with the transcripts of the session. If you would like to receive access to these, you can indicate as such on the consent form.

### **Why have I been invited to take part?**

You have been invited to take part because of your expertise in the area of SEN (special educational needs) music education.

### **Do I have to take part?**

No, participation is optional. If you do decide to take part, you will be given a copy of this information sheet for your records and will be asked to complete a participant consent form. If you change your mind at any point during the research activity, you will be able to withdraw your participation without having to provide a reason. To withdraw your participation, you need to inform the researcher and your data will be deleted as soon as possible.

### **Will I be identified in any outputs?**

Yes. Your participation in this interview is non-anonymous and therefore you will be identified in the following outputs. This is to identify the importance of your role and expertise in qualifying you to participate in this evaluative focus group. You will be named in the introductory text, but any quotes that you make will be anonymised.

### **Privacy Notice**

This section explains how personal data will be used by Kristl Kirk in the Decoding instrumental music with dyslexic students: An action research project at the University of York.

For this project, the University of York is the Data Controller. We are registered with the Information Commissioner's Office. Our registration number is Z4855807.

### **What is our legal basis for processing your data?**

Privacy law (the UK General Data Protection Regulation (GDPR) and Data Protection Act 2018) requires us to have a legal reason to process your personal data. Our reason is we need it to perform a public task.<sup>1</sup>

This is because the University has a public function, which includes carrying out research projects.<sup>2</sup> We need to use personal data in order to carry out this research project.

Information about your health, ethnicity, sexual identity and other sensitive information is called “special category” data. We have to have an additional

legal reason to use this data, because it is sensitive. Our reason is that it is needed for research purposes.<sup>3</sup> All research projects at the University follow our research ethics policies.

### **How do we use your data?**

The data collected from this evaluative focus group will be used in Kristl Kirk’s PhD thesis. Whilst the participants will not be anonymous, any quoted material will be anonymised in the thesis.

### **Who do we share your data with?**

As well as this, we use computer software or systems to hold and manage data. Other companies only provide the software, system or storage. They are not allowed to use your data for their own reasons.

We have agreements in place when we share data. These agreements meet legal requirements to ensure your data is protected.

### **How do we keep your data secure?**

The University is serious about keeping your data secure and protecting your rights to privacy. We don’t ask you for data we don’t need, and only give access to people who need to know. We think about security when planning projects, to make sure they work well. Our IT security team checks regularly to make sure we’re taking the right steps. For more details see our security webpages.

### **How do we transfer your data safely internationally?**

If your data is stored or processed outside the UK, we follow legal requirements to make sure that the same level of privacy rules still apply.

## How long will we keep your data?

The University has rules in place for how long research data can be kept when the research project is finished. For this project, data will be kept for ten years and will then be destroyed by the researcher.

## What rights do you have in relation to your data?

You have rights over your data. This sheet explains how you can stop participating in the study, and what will happen to your data if you do. This information is in the section 'Do I have to take part?'

If you want to get a copy of your data, or talk to us about any other rights, please contact us using the details below.

## Questions or concerns

If you have any questions or concerns about how your data is being processed, please contact my supervisor, Dr Liz Haddon, at



If you have further questions, the University's Data Protection Officer can be contacted at [dataprotection@york.ac.uk](mailto:dataprotection@york.ac.uk) or by writing to: **Data Protection Officer, University of York, Heslington, York, YO10 5DD.**

## Right to complain

If you are unhappy with how the University has handled your personal data, please contact our Data Protection Officer using the details above, so that we can try to put things right.

If you are unhappy with our response, you have a right to complain to the Information Commissioner's Office. You can also contact the Information Commissioner's Office by post to **Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF** or by phone on **0303 123 1113**.

<sup>1</sup>This refers to [UK GDPR Article 6 \(1\) \(e\)](#): processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller

<sup>2</sup> [Our charter and statutes](#) states: 4.f. To provide instruction in such branches of learning as the University may think fit and to make provision for research and for the advancement and dissemination of knowledge in such manner as the University may determine.

<sup>3</sup>This refers to [UK GDPR Article 9 \(2\) \(j\)](#): processing is necessary for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes in accordance with Article 89(1) based on Union or Member State law which shall be proportionate to the aim pursued, respect the essence of the right to data protection and provide for suitable and specific measures to safeguard the fundamental rights and the interests of the data subject

# Decoding instrumental music education for students with dyslexia: An action research project



## School of Arts and Creative Technologies

### Participant Consent Form – Non-Anonymous Interviews

Thank you for your interest in this project. This project aims to obtain evaluative feedback of research findings from a focus group of participants with expertise in the area of SEN (special educational needs) and music teaching.

Please read the following statements carefully and tick the appropriate box:

	YES	NO
I have read the information sheet about this project		
I agree to take part in this project		
I consent to participating in a recorded Zoom meeting		
I understand my right to withdraw and/or destroy my data from this project at any time		
I consent to be identified by name as a member of this focus group in the outputs from this project. I realise that any quotes will be anonymised in the thesis.		
I am over the age of 18		

**If you wish to be informed about the outcomes from this project, please provide your email address:**

**Participant Name:**

**Researcher Name:**

**Participant Signature:**

**Researcher Signature:**

## *Appendix E*

### **Questionnaire questions\_ Dyslexic students' perceptions of music exams**

Q1. Please click to indicate that you consent to the following:

1. I have read the information sheet and understand the content.
2. I understand that as guardian to a minor child I may assist them in completing this survey, but that their permission is also required.
3. I understand that the purpose of this survey is to better understand dyslexic students' perceptions of music exam access arrangements and reasonable adjustments.
4. I consent voluntarily to participate in this research study which will involve participating by completing a survey.

Q2. What is your age?

- 5 or under
- 6-10
- 11-18
- 19 or above

Q3. Have you been assessed or diagnosed with dyslexia or any specific learning disability?

- Yes
- No

Q4. Please select as many options which you feel might best describe your specific learning difficulties:

- difficulty with attention or concentration
- difficulties with reading
- difficulties with writing
- struggle with left-right differentiation
- poor hand independence
- poor general motor coordination



- difficulties involving numbers
- difficulties with sequencing
- poor working memory
- visual distraction

Q5. Please select which instruments you have studied and indicate how long you have studied them:

- Piano
- Woodwind instruments
- String instruments
- Brass instruments
- Voice
- Harp
- Organ
- Percussion
- Guitar
- Other, please describe

Q6. Which best describes the type of exam you took ?

- Music theory
- Practical
- Both
- Other, please describe:
- None

Q7. With which music exam board have you taken an exam?

- Associated Board of Royal Schools of Music (ABRSM)
- Trinity College London (TCL)
- London College of Music (LCM)

- Rockschool (RSL) Other
- None (please describe reason for this)

Q8. How did you obtain information regarding the various access arrangements or reasonable adjustments available for dyslexic students during music exams?

- your instrumental teacher
- the exam board website
- contact with the British Dyslexia Association
- your school
- you didn't know there were special arrangements available for dyslexic students for music exams
- Other

Q9. In general, do you feel that the information on the exam board's website was presented in a dyslexia friendly manner?

- Yes
- No
- I don't know

Q10. Which part of the website was not dyslexia friendly?

- font style
- colour combinations or choices
- font size
- spacing of text and images
- lack of customisable options
- design
- content
- absence of a site map
- it was incompatible with text reading software
- lack of alternative methods of obtaining information

Q11. Was information regarding the detail of the exam location and venue presented in a dyslexia friendly manner?

- No
- Yes

Q12. Were access arrangements made clear to you?

- No
- Yes

Q13. Were you requested to provide supporting evidence to document your dyslexia?

- No
- Yes

Q14. If you answered yes to the previous question, please detail the type of evidence you had to supply:

- Letter from an Educational Psychologist or Assessor
- Letter or email from head teacher or principal
- Letter or email from a SENCO
- Letter or email from a Disability Support Unit at a higher education establishment
- Letter or email from a suitable healthcare professional
- Other

Q15. How far in advance of the exam did you have to supply the supporting evidence:

- Four weeks
- One to three months
- Other

Q16. Which adjustments did you use during the exam? Please click all that apply:

- Extra time during the sight-reading portion of the exam
- Assistance with left-right orientation at any point in the exam

- Extra time during the aural test portion of the exam
- Bringing music which had been notated or modified for my reading style
- Modified music during the sight-reading portion of the exam
- Aural repetition in place of the sight-reading portion of the exam
- Use of the scale book to aid processing difficulties
- None
- Request for modified or simpler language used by the examiner
- Other

Q17. Which adjustments did you use during the music theory exam? Please click all that apply:

- Large print exam papers
- Modified exam paper
- Coloured overlay or coloured paper for the exam
- Extra time
- Use of a scribe Use of a reader
- Other

Q18. Were you offered any alternatives to traditional exam models which might have met your adaptive needs better?

- No
- Yes

Q19. If you answered yes to the previous question, please detail the alternatives you were offered:

Q20. Do you feel that the access arrangements were effective in giving you a fair opportunity in your exam?

- No
- Yes

Q21. If you answered no on the previous question, please describe why:

Q22. Do you feel that the reasonable adjustments were effective in giving you a fair opportunity for your exam?

- No
- Yes

Q23. If you answered 'no' to the previous question, please describe why you felt the exam might not have given you a level playing field with other candidates:

Q24. Which recommendations, if any, would you advise for music exams to be more accessible and inclusive for dyslexic students?

## *Appendix F*

### **Interview schedule for teacher interviews**

1. How did you identify dyslexic students in your teaching practice? If you work in an institution, how do they support your teaching of dyslexic students?

2. What do you feel are the greatest challenges facing instrumental teachers when teaching dyslexic students, and why?

What do you think are some of the most significant challenges facing the learner?

3. What are some of the ways that you feel these challenges can be ameliorated? What is the collaboration between you and the student in finding strategies that work?

4. Do you feel that certain teaching strategies are effective when working with dyslexic students? Which ones seem to be effective and why?

Rhythm?

Pitch?

Processing?

Sight-reading?

Exams?

Does your use of these vary with the age of the student and if so, how/why?

What strategies are not effective?

How have you found out which ones are effective (trial and error/reading/training)?

5. Dyslexic strengths are beginning to be more widely explored in educational contexts.

What strengths have you identified in dyslexic students?

How did you discover these?

How do you use these in your teaching?

6. How do you feel about the use of technology in teaching dyslexic students?

Do you use it – if so, how?

How is it best used?

Do you see gaps in the technology that is available currently?

How could you envision it might be used more effectively in the future?

7. What are the ways in which you feel teachers can best help dyslexic students to find and nurture their own voice in the process of learning to play a musical instrument?

8. Do you have any experience of dyslexic students being mentored in the educational context?

9. How can you as a teacher respond to and develop awareness of the roles or effects of co-occurring conditions (ADHD, dyspraxia/ motor coordination, autism, dyscalculia) on the learning process?

10. How have you developed your understanding of dyslexia and of how to support students with dyslexia?

Have you been on any courses/training focused on this? (self-funded or provided by your institution?)

Have you read any books about this?

Have you talked to teaching colleagues about this? Etc.

How has this knowledge informed your teaching practices?

11. Are there any resources from fields outside music education that have influenced your understanding and approach to dyslexic students? (E.g. cognitive neuroscience, behavioural, general education)

12. How do you see the role of parents in dyslexic student's lessons or in supporting their practise?

13. Do you consider a dyslexic students' mind-set and the psychological aspects of teaching the dyslexic learner? How does this affect their learning process? How do you support them in challenges?

14. Do you have any further comments?



## *Appendix G*

### **Interview schedule for parents**

1. How did you identify that your child had dyslexia?
2. How did they feel about having dyslexia?
3. What, if any, challenges have they faced at school or with music lessons?
4. How do they cope with these challenges?
5. Do they face any challenges related to organisation?
  - a. Motor coordination?
  - b. Attention?
6. What strengths do you perceive that they have?
7. Do you feel they are being supported well at school and in music lessons?
8. Are there any ways you see their educational experiences might be improved?
9. What helps your child to learn best?
10. Is there anything else you would like to add?

## *Appendix H*

### **Interview schedule for students**

1. How did you identify that you had dyslexia?
2. How did you feel about finding out that you had dyslexia?
3. Do you feel that dyslexia has affected your ability to learn music?
4. Can you describe your challenges?
5. What strategies worked best for you?
6. Do you perceive that you have strengths that are related to dyslexia?
7. How were your experiences with music teachers?
8. Are there any resources that have informed your understanding of dyslexia or how it affects your musical abilities?
9. Is there anything else you would like to add?

## *Appendix I*

### **Sample lesson plan**

#### **Lesson plan**

Objectives: Ben is preparing for GCSE music.

He needs to become familiarised with music terms. Today, we will focus more on *texture*. Last week, I introduced him to the terms: *monophonic*, *homophonic* and *polyphonic*.

1. Ask: Do you know of any music that is monophonic, homophonic or polyphonic?
2. Depending on his response, I will ask him to play his piece 'This is amazing', which is melody and accompaniment and see if he can categorise it as homophonic.
3. Ask: What do you think the texture of this music might be?
4. See if he can connect knowledge to current pieces: Have you played any monophonic pieces?
5. What about the bars in Musette in D by Bach that you play? Ask him to play and see if he can connect the monophonic bars with his knowledge.
6. Ask him to choose some music samples for me for next week of each type of texture.

Secondly, to reinforce these terms kinaesthetically, I will offer him the opportunity to use some materials at the desk and see if he wants to make a representation of the sounds on paper which he could keep in his notebook.

Alternatives: If he is not interested in doing that, we could have him write the terms down, and then have a listen to 'Cat Patrol' to see how he is progressing with that. Alternatively, we could practise our duet, or he could choose a piece he might like to play.

## *Appendix J*

### **Accessible text-only version of UDL Checkpoints**

#### **Provide multiple means of Representation**

Provide options for Perceptions (1) Offer ways of customizing the display of information (1.1) Offer alternatives for auditory information (1.2) Offer alternatives for visual information (1.3) Provide options for Language & Symbols (2) Clarify vocabulary and symbols (2.1) Clarify syntax and structure (2.2) Support decoding of text, mathematical notation, and symbols (2.3) Promote understanding across languages (2.4) Illustrate through multiple media (2.5) Provide options for Comprehension (3) Activate or supply background knowledge (3.1) Highlight patterns, critical features, big ideas, and relationships (3.2) Guide information processing and visualization (3.3) Maximize transfer and generalization (3.4)

#### **Provide multiple means of Action & Expression**

Provide options for Physical Action (4) Vary the methods for response and navigation (4.1) Optimize access to tools and assistive technologies (4.2) Provide options for Expression & Communication (5) Use multiple media for communication (5.1) Use multiple tools for construction and composition (5.2) Build fluencies with graduated levels of support for practice and performance (5.3) Provide options for Executive Functions (6) Guide appropriate goal-setting (6.1) Support planning and strategy development (6.2) Facilitate managing information and resources (6.3) Enhance capacity for monitoring progress (6.4)

#### **Provide options for Recruiting Interest**

(7) Optimize individual choice and autonomy (7.1) Optimize relevance, value, and authenticity (7.2) Minimize threats and distractions (7.3) Provide options for Sustaining Effort & Persistence (8) Heighten salience of goals and objectives (8.1) Vary demands and resources to optimize challenge (8.2) Foster collaboration and community (8.3) Increase mastery-oriented feedback (8.4) Provide options for Self-Regulation (9) Promote expectations and beliefs that optimize motivation (9.1) Facilitate personal coping skills and strategies (9.2) Develop self-assessment and reflection (9.3)

Reference: CAST (2018). *Universal design for learning guidelines version 2.2* [graphic organizer]. Wakefield, MA.

## *Appendix K*

### **Sample reflective journal page**

#### **Egyptian Level - Grade 1 warm up**

It's nice to see that Alex enjoys the harmonic minor sound of this piece, and he enjoys exploring the keyboard in the lower registers with the piece – which he calls 'the dark side'. He decides to return to it later in the lesson, which I feel is a very positive thing. He has forgotten his other books and blamed his mum again. I have spare copies, so we were able to continue.

#### **Train Ride - Prep test ABRSM**

The rhythm is quite uneven, but he is remembering the pitches. The question is how to get him to hear a steady pulse? He played the piece through to the end and plays hands together. I praise him for these things but ask him to try to tap while I play the tune in order for him to hear it played evenly. He does a better job initially when he plays it again and then falls back into habits of the way he was playing it before. I suspect he has practised it this way. I can feel myself thinking 'You can play it as you want to at home, but here we will play it as it is written in the book'. However, he simply does not recognise that he has learned it incorrectly and is very frustrated. And of course, when he is home, he may not remember what we have done together.

Then he tried playing the right hand only, without much rhythmic attention. I know he is proud of himself for being able to play the right-hand pitches. I focused on praising him for playing the right hand through. Next week, we can try segmenting the rhythm into a catchy phrase, which worked well in the past for him.

**Behaviour:** He was playing the piano while I was talking to him which I don't normally permit. I will have a quiet word at the beginning of our next lesson, explaining again that it's best to do one thing at a time.

#### **G major scale (presented aurally and with a simple line of standard notation)**

I prompt on fingering and ask for two octaves with the right hand. I demonstrate fingering for two octaves. He achieves it with multiple prompts. Perhaps too much talking at him while he tries it. I tried blocking out the scale for fingering purposes. I explain the purposes of the scale, to strengthen the fingers.

### **Lullaby Carol**

It took quite a bit of time figuring out where hands should start, and which fingers are on the starting notes. I demonstrate and then he tries but struggles with this. Could this be an issue of finger independence slowing him down? We could try some fun games at the keyboard to work on improving that, perhaps next week we could try some short pieces as exercises for improving this.

**Behaviour:** Alex was a bit distracted after a student came by to retrieve a coat they left. I try to minimise these distractions, but they happen. I praised him 'You did that on your own and that was brilliant' (trying to encourage self-regulation and get his attention and focus back). Tried demonstration to learn the next section, and that seemed to work very well.

We chat through about the next week's practise and make a copy of a 'Jurassic World' piece he wants to try. Alex chose some goals which I also feel are achievable, and most importantly, he seems very motivated to want to play it.

Action points:

1. More basic rhythmic work, segmentation of rhythm with phrases he makes up and will remember
2. Finger independence exercises/ pieces/ games
3. Try some note finding exercises on the keyboard.
4. Ask him if he wants to record his pieces or play for mum next week.

## Appendix L

### Piano teaching health and safety risk assessment during Covid-19

#### HEALTH & SAFETY RISK ASSESSMENT – Covid-19 - Example

#### HEALTH & SAFETY RISK ASSESSMENT – Covid-19 - Example

<b>Site / Location:</b>	Home	<b>Assessor</b>	
<b>Activity:</b>	Private Piano Teaching	<b>Date:</b>	27 <sup>th</sup> June 2020

#### A. INTRODUCTION

This risk assessment considers the risk posed by Coronavirus-19 (SARS-CoV-2) by identifying circumstances where exposure to the virus could occur (see B – 'Sources of Risk'). Existing control measures (that are already in place) for managing the associated risk are defined (see C – 'Control Measures'). Responsibility for these measures are shown in bold.

To determine if the sources of risk are managed adequately by the existing control measures, the level of residual risk (taking into account the effect of the control measures) is calculated (see D). Residual risk level is calculated using the scoring matrix shown below. Where the residual risk is scored higher than 6, further action may be required to reduce the risk further (see E).

Likelihood	more	5					
		4					
		3					
		2					
	less	1					
			1	2	3	4	5
			better		worse		
			Severity				

Risk rating:	1-6	Green	Monitor to ensure control measures are implemented consistently and that the rating remains valid.
	8-12	Amber	Try to identify additional controls to reduce the risk. Ensure that control measures are implemented consistently and look to improve by the next review.
	15-25	Red	Cease this activity until additional controls can be put in place to manage the risk.

Circumstances of potential exposure or increased risk of serious illness are identified in the following broad areas:

1. Travel to and from lesson on public transport.
2. Contact with common contact surfaces.
3. Close proximity activity (air borne transmission)



B. SOURCES OF RISK	C. EXISTING CONTROL MEASURES	D. RISK			E. ADDITIONAL MEASURES (if SxL>6)
		S	L	SxL	
<p>1. Students who need to use public transport including buses and trains could be in close proximity of other members of the public resulting in potential virus transmission.</p>	<p>a. Check if students who use public transport are able to maintain distancing. If not, consideration made to vary lesson time so student can avoid peak times. <b>Teacher</b></p>	4	2	8	<p>Consider conducting lesson by remote connection technology such as Teams, Skype, Facetime or other secure platform. Ensure appropriate safeguarding at all times. <b>Teacher</b></p>
<p>2. Touching common contact surfaces including those listed below could result in virus transmission.</p> <ul style="list-style-type: none"> <li>- Door handles</li> <li>- Piano keys</li> <li>- Music</li> <li>- Practice notes</li> </ul>	<p>a. All common contact surfaces cleaned immediately prior to each student arriving including:</p> <ul style="list-style-type: none"> <li>- Door handle</li> <li>- Piano keys</li> <li>- Perspex screen</li> </ul> <p><b>Teacher</b></p> <p>b. Where practicable, regularly used doors are propped open to prevent the need for hand contact. <b>Teacher</b></p> <p>c. Teacher and students wash hands immediately before and after lesson. <b>Teacher &amp; Student</b></p> <p>d. Students use their own music where possible. <b>Student</b></p> <p>e. Students makes their own practice notes using their own pen / pencil. <b>Student</b></p>	4	1	4	
<p>3. Close proximity between teacher and student could result in airborne transmission of virus:</p>	<p>a. Seating set up so that teacher and student are 2m apart. <b>Teacher</b></p> <p>b. If / when not practicable to maintain 2m distancing, 1m distancing plus at least one of the following mitigating measures is applied:</p> <ul style="list-style-type: none"> <li>- side to side positioning (no face to face communication)</li> <li>- face shield worn</li> <li>- face masks or coverings worn.</li> </ul> <p><b>Teacher</b></p>	4	1	4	

B. SOURCES OF RISK	C. EXISTING CONTROL MEASURES	D. RISK			E. ADDITIONAL MEASURES (if SxL>6)
		S	L	SxL	
4. Close proximity between students especially during crossover between lessons could result in airborne transmission of virus.	<p>c. Ventilation is maximised by opening doors and windows where practicable. <b>Teacher</b></p> <p>a. 5 min gap between lessons applied to allow one student to leave before the next arrives. <b>Teacher</b></p> <p>b. Lessons started and finished promptly to ensure no crossover between students. <b>Teacher</b></p> <p>c. Students asked not to arrive until the time of their lesson. <b>Student</b></p>	4	1	4	
5. Singing increases risk of transmission of virus.	<p>a. Singing is carried out behind a Perspex screen which is cleaned after the singing activity. <b>Student</b></p>	4	1	4	Consider conducting lesson by remote connection technology such as Teams, Skype, Facetime or other secure platform. Ensure appropriate safeguarding at all times. <b>Teacher</b>
6. Teacher and student are at increased risk of having and transmitting Covid-19 if any of the following apply to any members of their households:: <ul style="list-style-type: none"> <li>- Tested positive for Covid-19</li> <li>- Covid-19 symptoms (cough, temperature, loss of taste or smell)</li> <li>- Contact with a confirmed Covid-19 case.</li> </ul>	<p>a. Students asked to advise if any of the following applies to them or any member of their household: <ul style="list-style-type: none"> <li>- Tested positive for Covid-19</li> <li>- Continuous cough, temperature or loss of taste or smell symptoms</li> <li>- Contact with a confirmed Covid-19 case</li> </ul> <b>Teacher &amp; Student</b> </p> <p>Conducting lesson by remote connection technology such as Zoom, Teams or Facetime is considered for affected students. <b>Teacher</b></p>	4	1	4	
6. Students who are in a high risk group due to age or underlying health condition may be at greater risk of serious illness in the event of exposure.	<p>a. Students who are at higher risk due to age or underlying health conditions are identified and extra vigilance applied regarding distancing and cleaning measures (see above). <b>Teacher</b></p>	5	2	10	Consider conducting lesson by remote connection technology such as Teams, Skype, Facetime or other secure platform. Ensure appropriate safeguarding at all times. <b>Teacher</b>

*Appendix M*

**Student age-appropriate information sheet for piano lessons**

Any questions?

Kristl Kirk  
[Redacted]

Dr. E. Haddon  
[Redacted]

music  
research  
project

Icons: waveform, play button, musical note, refresh button, double musical note.

## I invite you to take part in a research project.

What is it?

I want to understand more about how you learn so that I can be a better teacher.

I will video-record lessons on an Ipad

and

I will make notes about the lessons.

Who will see the videos and notes?

Others who are also interested in learning more about how you learn may see the notes and videos.

They will not know your real name as you will have a special code name.

The videos will be specially edited so that you will not be recognised.

Is it my choice?

Absolutely.

You can talk with your parents and decide. If you change your mind later, that's okay.

I will not use any of your lessons or notes in my research.

I will still enjoy being your teacher.

## *Appendix N*

### **Focus group brief**

**March 15, 2024**

#### Research aim:

The aim of this study was to investigate dyslexia in the instrumental music education context and to understand more about the complexities of the interrelationships between music teachers, students with dyslexia and their parents with the goal of improving and enhancing instrumental music teaching for students with dyslexia. By developing a better understanding of dyslexic students and approaches which might aid them in learning music, a secondary goal would be to generate resources which may be beneficial for stakeholders.

#### Research questions:

- 1) How are the strategies, methods and materials that are often recommended for students with dyslexia perceived by teachers and students and utilised in practice?
- 2) How can the strengths of dyslexia be identified and explored in the music lesson context?
- 3) What might be learned from teacher, student and parental interactions?

#### Reason for doing this research:

Though there is an increase in literature relating to special educational needs (SEN) in music education (Culp & Salvador, 2021; Darrow & Adamek, 2018; Welch & Ockelford, 2015); relatively little material exists to address these questions, and research which accounts for the voice of the student with dyslexia in music education is limited. Furthermore, the scarcity of available literature and funding for music education dyslexia research suggests that learning music is not seen as valuable as learning to read text, although research examining music as a therapy to promote literacy with dyslexic students is becoming more prevalent.

## Conceptual frameworks:

My approaches in this work are informed by a mixture of interpretivist and pragmatic views. A socially constructed theoretical framework provides the structural foundation whereby qualitative data is obtained and analysed. The philosophical perspective that knowledge is socially constructed, described by (Crotty, 1998) as the understanding that 'truth, or meaning, comes into existence in and out of our engagement with the realities in our world' (p. 5), establishes the underlying theoretical framework for this research. The ecological and bioecological models of development (Bronfenbrenner, 1977; Bronfenbrenner & Morris, 2007; Bronfenbrenner, 1979) are used to account for the developmental growth of myself as a teacher and that of my students.

## Ethical considerations:

Human participants require particular considerations which are set out in the British Educational Research Association's guidelines (Bera, 2018). The following ethical factors had to be considered in my application for ethical approval from the Arts and Humanities Ethics Committee (AHEC) at the University of York: potential conflicts of interest, methods of data collection, participants, informed consent, vulnerabilities, risk analysis, data protection, data storage or transfer, and anonymity. I mitigated risk through the following:

- I obtained ethical approval in advance of the research being carried out.
- I obtained voluntary, informed consent in advance of the research being carried out. In the case of minors, I obtained informed consent from their guardians.
- I maintained ethical and safe boundaries in the teaching setting in order to reduce any risks.
- I maintained openness and transparency about the use of personal information, by guaranteeing anonymity, by safely storing data and by reassurance of trust between the investigator and other participants (Bera, 2018).

- Data protection was secured by the use of pseudonyms and safe storage in password-protected files. Data for this research was stored on Google Drive and University of York Filestore, and will be retained for ten years in accordance with the University of York protocol. I will then be responsible for destroying the data.

## Methodology and data collection:

This project of action research investigated the teaching of two piano students with a formal assessment of dyslexia in the one-to-one lesson context. Action research is cyclical and change producing. The research took place through four main cycles with a number of smaller cycles in between.

### **Action research cycles**



Drawing on a literature review of dyslexia and music education and informed by semi-structured interviews with instrumental music and vocal teachers possessing experience in teaching students with dyslexia, parents of students with dyslexia, and music students with dyslexia, this multi-dimensional approach also included reflective observations from my one-to-one piano lessons with the students.

## Data analysis:

Research data was analysed according to Braun & Clarke (2006) thematic analysis.

I acknowledge my role as researcher in collecting the data and also in organising the data in ways which demonstrate how experiences, events and perspectives operate in a socially constructed environment. My aim was to answer the research questions by interpreting the experiences of teachers, dyslexic students and parents and analysing this data, along with my

experiences of teaching dyslexia students, to inform my teaching practice and support ongoing pedagogical practice.

### The significance of this work:

At the heart of these transitions in my teaching practice has been a greater understanding of dyslexia in the instrumental teaching process. This has been informed by literature and from the perspectives of teachers, parents and students, as well as reflective observations from my own teaching practice. A key finding has been that participants overwhelmingly focused on the deficits of dyslexia and that teachers perceived a lack of research, training and resources to support their teaching for students with dyslexia (Chapter Seven). This has the potential to lead to assumptions and misapplication of strategies which could mean detrimental outcomes for the student. It is crucial that instrumental music teachers have access to high-quality, accessible music training which emphasises an individualised, strengths-focused approach. From this, I have developed a Knowledge and Practice Standards document and have created a new risk-resilience model to better understand how to support students with dyslexia in the instrumental teaching context.



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## *Appendix O*

### **Workshop participant feedback**

### **Participant feedback Music Mark Northwest Music Hubs Conference workshop September 4, 2023, collected anonymously through Mentimeter**

#### **What was your main takeaway from today?**

So good to hear about strengths of dyslexic people.

I thought this was really helpful- probably need to think about how I will apply what I learned but I would like more time and training on this.

Helped broaden knowledge and consider strengths of dyslexic students.

Really useful to discuss the practical elements of teaching Dyslexic students but also how these can be applied for teaching all our students.

Lots of recommendations

I will try to teach from my own experiences if what I think is dyslexia.

That strategies need to be individualised for each person and about various strategies that could be put into place.

Useful resources to share with staff.

Thinking about how to teach using students' strengths rather than focus on how to develop weaknesses.

I will make sure to celebrate the strengths of dyslexic pupils and use this to their advantage within lessons using alternative resources.

Learnt a lot about the modern ideas of Dyslexia and a very thorough presentation of what it means to be dyslexia and how to deal with students with dyslexia.

I think it will make me more aware of what to look out for.

It is interesting to gather some information about dyslexia and how it relates to the student's learning.

Found the session really interesting and insightful to see how to support dyslexic music students. Interesting to see an alternate side of the coin as my mum is a BDA assessor.

I learnt a lot of strategies that I can implement in my own learning as well as teaching. I really loved the focus on the positives! Thank you.

I enjoy learning more about dyslexia in a brain and inherited way. I will apply the positive and affirmative points of view of each student.

That dyslexia also comes with many strengths, and I should use these to the students advantage.

I also didn't realise that there were so many different types of dyslexia.

Teaching techniques and how to spot the signs of dyslexia.

Neurodivergence isn't a list of negatives. I will use the positive aspects we have thought about today in lessons.

Signal of rubbing eyes when concentration capacity is reached is interesting to hear - I'll look out for it.

Expanding rhythms, colour overlays not big solution. Increased aural perception.

Going to try colour coding the music with a specific student. Do you know about the Kodály approach? I find that very useful for a multisensory approach to teaching.

More open minded and greater awareness

Very informative thank you.

Helped me to understand the needs of a dyslexic child. Also helpful for myself as a musician who is dyslexic in understanding my own needs.

Drake music and a range of different strategies. I have encountered many of the issues mentioned in my teaching and feel I have a renewed appetite to tackle them.

Very Informative, really useful ideas and strategies. Thankyou.

Really interesting and informative introduction to dyslexia and music education.

Pupil's own perception of what we might consider a musical strength which the perhaps consider not to be ie aural.

Thinking about the particular challenges dyslexic students might face and how to teach them in a way that celebrates their strengths and encourages them rather than discouraging them.

Interesting overview of a complex topic

Books and resources

Great informative presentation. Thank you.

Being so much more flexible with activities and be more aware of their needs in each lesson

Help in recognition of students with dyslexia.

Very interesting. Will look into it further.

Reassessing own teaching

Dyslexia can be a strength if diagnosed and handled appropriately.

*Appendix P*

**International Dyslexia Associations' Knowledge and Practice Standards for  
Teachers of Reading**



**Knowledge and Practice Standards for Teachers of Reading**

Second Edition: 2018  
First Edition: 2010

## Executive Summary

### Reading Difficulties Affect a Large Proportion of the Student Population

Learning to read and write is not natural or easy for many—if not most—students. Learning to read requires mastery of a complex web of underlying language skills that, for the large majority, must be explicitly taught and learned over several years. Reading, spelling, writing, and language abilities exist on a continuum, with only about a third of the students in the United States demonstrating proficient or advanced literacy skills by 4<sup>th</sup> grade. On the lower end of the distribution, the National Assessment of Educational Progress (NAEP) consistently finds that about 32% of all fourth-graders read at a level described as “below basic,” which is not sufficient to support grade-level academic work. The proportion of struggling students is far higher in minority and poorer communities. While most of these students will not qualify for special education under federal laws, their reading and language weaknesses must be addressed. Most of these at-risk students will depend on instruction given in the regular classroom, supplemented by small-group instruction within a response-to-intervention (RTI) framework. The 6–8% of students who may qualify for special education services for suspected learning disabilities will typically demonstrate severe difficulties with language, reading, and writing, but will still be participating in general education classrooms. Clearly, the responsibility for teaching reading and writing to all students resides first with classroom teachers and secondarily with reading specialists, providers of supplementary services, and special education personnel.

### Effective Instruction Is Key to Prevention and Intervention

Although dyslexia and related reading and language problems may originate with neurobiological differences, they are mainly treated with skilled teaching. Effective classroom instruction delivered by a knowledgeable teacher, especially in the early grades, can prevent or at least effectively address and limit the severity of reading and writing problems. Potential reading failure can be recognized as early as preschool and kindergarten, if not sooner. A large body of research evidence shows that with appropriate, intensive instruction, all but the most severe reading disabilities can be ameliorated in the early grades, and students can get on track toward academic success. For those students with persistent dyslexia, who need specialized instruction outside of the regular classroom, competent intervention from a specialist can lessen the impact of the disorder and help the student overcome and manage the most debilitating symptoms.

What is the nature of effective instruction for most students who are learning to read? The methods supported by research are explicit, systematic, cumulative, and multisensory in that they integrate listening, speaking, reading, and writing. They are also multilinguistic, as they directly teach the structure of language at all levels, including the speech sound system (phonology), the writing system (orthography), the structure of sentences (syntax), the meaningful parts of words (morphology), word and phrase meanings (semantics), and the organization of spoken and written discourse. The strategies emphasize planning, organization, attention to task, critical thinking, and self-management. Such aspects of instruction are important for all students who are acquiring new concepts, skills, and strategies, but they are especially critical for students with language-learning weaknesses, including dyslexia. A shift to more student-centered, workshop-oriented approaches is only appropriate after students are secure with the fundamentals.

## Structured Literacy

Structured Literacy is an approach to reading instruction that is beneficial for both general education students at risk for reading difficulties due to a variety of factors (e.g., low socioeconomic status, status as an English learner (EL)) *and* for students with disabilities.

This approach is characterized by the provision of systematic, explicit instruction that integrates listening, speaking, reading, and writing and emphasizes the structure of language across the speech sound system (phonology), the writing system (orthography), the structure of sentences (syntax), the meaningful parts of words (morphology), the relationships among words (semantics), and the organization of spoken and written discourse.

The following instructional principles are associated with the provision of Structured Literacy instruction:

1. Instructional tasks are modeled, when appropriate.
2. Explicit instruction is provided.
3. Meaningful interactions with language occur during the lesson.
4. Multiple opportunities are provided to practice instructional tasks.
5. Corrective feedback is provided after initial student responses.
6. Student effort is encouraged.
7. Lesson engagement during teacher-led instruction is monitored.
8. Lesson engagement during independent work is monitored.
9. Students successfully complete activities at a high criterion level of performance.

## Are Teachers Prepared?

Teaching language, reading, and writing effectively, especially to students experiencing difficulty, requires considerable knowledge and skill. Regrettably, the licensing and professional development practices currently endorsed by many states are insufficient for the preparation and support of teachers and specialists. Researchers are finding that individuals with reading specialist and special education licenses often know no more about research-based, effective practices than those individuals with general education teaching licenses. The majority of practitioners at all levels have not been prepared in sufficient depth to prevent reading problems, to recognize the early signs of risk, or to teach students with dyslexia and related learning disabilities successfully. Inquiries into teacher preparation in reading have revealed a pervasive absence of rich content and academic rigor in many courses that lead to the certification of teachers and specialists. Analyses of teacher licensing tests show that, typically, very few are aligned with current research on effective instruction for students at risk. When tests are aligned with scientific research, far too many teacher candidates are unable to pass them. To address these gaps and promote more rigorous, meaningful, and effective teacher preparation and professional development, the Center for Effective Reading Instruction (CERI) has adopted this set of knowledge and practice standards.



## Standards for Informed Practice

Although programs that prepare or support teachers, clinicians, or specialists differ in their methodologies, teaching approaches, and organizational purposes, they should ascribe to a common set of professional standards for the benefit of the students they serve.

The *Knowledge and Practice Standards for Teachers of Reading* explicitly sets forth the knowledge and skills that all teachers of reading are expected to possess to advance students' reading and writing profiles from a Structured Literacy approach in classroom, remedial, and clinical settings.

These standards reflect the current state of the scientific research base and are the result of a rigorous development and vetting process that included the input of a wide range of stakeholders, including researchers, educators, higher education faculty, clinical specialists, parents, and advocates.

Standard 1 addresses foundational concepts, derived from interdisciplinary research, about reading development and reading difficulties. Standard 2 covers knowledge of diverse reading profiles, including dyslexia. Standard 3 pertains to knowledge of assessment. Standard 4 addresses Structured Literacy teaching, offering detailed guidance with regard to the nature of effective instruction in each major domain (phonological sensitivity and phoneme awareness, phonics and word recognition, reading fluency, vocabulary, listening and reading comprehension, and written expression). Standard 4 also offers guidance regarding expectations for teachers engaged in fieldwork or practicum (e.g., in interpretation of assessments, planning differentiated instruction, lesson design, corrective feedback, and so forth). Standard 5 delineates ethical standards for the profession.

## Guidance and Support for Preservice and In-service Teachers

Learning to teach reading, language, and writing is a complex undertaking. The competence and expertise of regular classroom teachers is the most important factor in determining who will learn to read, write, and use language well enough to succeed academically. General education teachers, as well as those who provide intervention and specialized instruction, deserve preservice courses that prepare them to teach all students, including those who may be off-track or struggling. Licensed, practicing teachers can still learn these critical skills through substantive in-service coursework. Preparatory and in-service coursework should emphasize the study of reading development, the structure of language, the nature of individual differences, and the methods of Structured Literacy for all those who must be taught how to read. When teachers are better prepared, the impact of reading difficulties, including dyslexia, will be lessened, and many more students will receive the instruction and support that they require to succeed academically.

## INTRODUCTION

### Purpose of These Standards

The Knowledge and Practice Standards are to be used to guide the preparation, certification, and professional development of those individuals who teach reading and related literacy skills in classroom, remedial, and clinical settings. The term *teacher* is used throughout this document to refer to any person whose responsibilities include reading instruction. The standards aim to specify what individuals responsible for teaching reading should know and be able to do so reading difficulties, including dyslexia, may be prevented, alleviated, or remediated.

Although programs that certify or support teachers, clinicians, or specialists differ in their preparation methodologies, teaching approaches, and organizational purposes, they should ascribe to a common set of professional standards for the benefit of the students they serve. Compliance with these standards should assure the public that individuals who teach in public and private schools, and in clinics, are prepared to implement scientifically based and clinically proven practices.

### Background: Why These Standards Are Necessary

Reading difficulties are the most common cause of academic failure and underachievement. The National Assessment of Educational Progress consistently finds that about 31% of all fourth graders read at a level described as “below basic,” and only about a third are proficient or advanced. Between 15 and 20% of young students demonstrate significant weaknesses with language processes, including, but not limited to, phonological processing, that are the root cause of dyslexia and related learning difficulties. Of those who are referred to special education services in public schools, approximately 85% are referred because of their problems with language, reading, and/or writing. Informed and effective classroom instruction, especially in the early grades, can prevent and relieve the severity of many of these problems. For those students with dyslexia or language-based learning disorders who need specialized instruction outside of the regular classroom, competent intervention from a specialist can lessen the impact of the disorder and help the student overcome the most debilitating symptoms.

Teaching reading effectively, especially to students who are struggling, requires considerable knowledge and skill. Regrettably, current licensing and professional development practices endorsed by many states are insufficient for the preparation and support of the teachers and specialists who are responsible for enabling *all* students to read and write. Researchers are finding that those individuals with reading specialist and special education licenses often know no more about research-based, effective practices than those individuals with a general education teaching license. The majority of practitioners at all levels have not been prepared in sufficient depth to recognize the early signs of risk, to prevent reading problems, or to teach students with dyslexia and related learning difficulties successfully. Inquiries into teacher preparation in reading have revealed a pervasive absence of substantive content and academic rigor in many courses that lead to the certification of teachers and specialists. Analyses of teacher licensing tests show that, typically, very few are aligned with current research on effective instruction for students at risk. And finally, existing standards for preparation of teachers of reading address literacy very broadly, but in much less detail than is specified here. To address these gaps, CERI has adopted these standards for knowledge, practice, and ethical conduct.

## Research-based Assumptions About Reading Difficulties, Including Dyslexia

These standards are broadly constructed to address the knowledge and skill base for teaching reading in preventive, intervention, and remedial settings, especially to students at risk for reading failure. Underlying the standards are assumptions about the nature, prevalence, manifestations, and treatments for reading and writing difficulties that are supported by research and by accepted diagnostic guidelines. These assumptions are as follows:

- Reading skill is distributed on a continuum; students may experience mild, moderate, or severe problems with some or all of the essential subskills of reading. Mild and moderate difficulties are most likely to be addressed through general education with supplemental small-group support.
- Reading difficulty, especially when manifested early in reading development, involves inaccurate and/or slow recognition of printed words.
- Dyslexia is the appropriate name for disorders of word recognition and spelling that originate from core problems in phonological and/or orthographic processing. Many, if not most, students with word-level reading and spelling problems will never receive an official diagnosis or be served through special education, but they will nonetheless be the responsibility of general education and intervention teachers.
- A smaller subgroup of students demonstrates primary difficulties with language comprehension, in conjunction with inadequate word-recognition skills.
- Some students experience a primary problem with the development of fluent, automatic reading, and the slow rate of their reading impairs their academic functioning.
- Different kinds of reading and writing difficulties require different approaches to instruction. One program or approach will not meet the needs of all students.
- Although early intervention is the most effective way to prevent and ameliorate learning problems, individuals with dyslexia and other reading difficulties can be helped at any age.
- Dyslexia and related learning difficulties often exist in individuals with aptitudes, talents, and abilities that enable them to be successful in many domains.

## Uses for These Standards

The standards outline the (1) content knowledge necessary to teach essential reading and writing skills and strategies to students in general, intervention, and remedial contexts; 2) universal principles and practices of effective instruction; and 3) ethical conduct expected of professional educators and clinicians.

The standards may be used for several purposes, including but not limited to the following:

- educator preparation program accreditation;
- educator certification;
- course design and course sequencing within teacher certification programs;
- delineation of fieldwork requirements and observation checklists; and
- a content framework for the development of licensing or certification examinations.

## How to Read and Cite the Standards

The *Knowledge and Practice Standards of Teachers of Reading* are organized into five major content areas. Each knowledge standard, in the left column, is numbered to indicate the larger content domain to which it belongs. Examples of how each item within the domain might be observed, tested, or applied are aligned in columns to the right of each standard. The five content domains are as follows:

- Standard 1 addresses foundational concepts about reading development and reading difficulties that are derived from interdisciplinary research.
- Standard 2 covers knowledge of diverse profiles of reading difficulty, including dyslexia, very slow reading, and language comprehension problems.
- Standard 3 pertains to knowledge of assessment relevant to evidence-based practices with a response-to-intervention (RTI) framework.
- Standard 4 addresses Structured Literacy teaching, offering detailed guidance with regard to the nature of effective instruction in each major skill domain (phonological sensitivity and phoneme awareness, phonics and word recognition, reading fluency, vocabulary, listening and reading comprehension, and written expression). Standard 4 also offers guidance regarding expectations for teachers engaged in fieldwork or practicum (e.g., in interpretation of assessments, planning differentiated instruction, lesson design, corrective feedback, and so forth).
- Standard 5 delineates ethical standards for the profession.

Standards 1, 2, and 3 specify examples of tasks and activities that might demonstrate understanding of the knowledge standard that coursework designers could expect of their students. Standard 4 elaborates the meaning of Structured Literacy instruction by further enumerating examples of the teaching practices that might be expected in a practicum or fieldwork setting. These examples are offered for guidance only; course designers may certainly design other activities and tasks that replace or improve upon those proposed in this document.

When citing the Standards for inclusion on syllabi or training materials, please reference the standard and substandard. For example, KPS 4A.3 (Understand rationale for/Adapt instruction to accommodate individual differences in cognitive, linguistic, sociocultural, and behavioral aspects of learning). The citation for referencing this document follows:

International Dyslexia Association. (2018, March). *Knowledge and Practice Standards for Teachers of Reading*. Retrieved from <https://dyslexiaida.org/knowledge-and-practices/>

<b>Knowledge and Practice Standards for Teachers of Reading</b> <b>Summary Table</b> <i>Does Not Include Knowledge and Practice Examples</i>	
<b>Standard 1: Foundations of Literacy Acquisition</b>	
1.1	Understand the (5) language processing requirements of proficient reading and writing: phonological, orthographic, semantic, syntactic, discourse.
1.2	Understand that learning to read, for most people, requires explicit instruction.
1.3	Understand the reciprocal relationships among phonemic awareness, decoding, word recognition, spelling, and vocabulary knowledge.
1.4	Identify and explain aspects of cognition and behavior that affect reading and writing development.
1.5	Identify (and explain how) environmental, cultural, and social factors contribute to literacy development.
1.6	Explain major research findings regarding the contribution of linguistic and cognitive factors to the prediction of literacy outcomes.
1.7	Understand the most common intrinsic differences between good and poor readers (i.e., linguistic, cognitive, and neurobiological).
1.8	Know phases in the typical developmental progression of oral language, phoneme awareness, decoding skills, printed word recognition, spelling, reading fluency, reading comprehension, and written expression.
1.9	Understand the changing relationships among the major components of literacy development in accounting for reading achievement.
<b>Standard 2: Knowledge of Diverse Reading Profiles, Including Dyslexia</b>	
2.1	Recognize the tenets of the (2003) IDA definition of dyslexia, or any accepted revisions thereof.
2.2	Know fundamental provisions of federal and state laws that pertain to learning disabilities, including dyslexia and other reading and language disability subtypes.
2.3	Identify the distinguishing characteristics of dyslexia.
2.4	Understand how reading disabilities vary in presentation and degree.
2.5	Understand how and why symptoms of reading difficulty are likely to change over time in response to development and instruction.
<b>Standard 3: Assessment</b>	
3.1	Understand the differences among and purposes for screening, progress-monitoring, diagnostic, and outcome assessments.
3.2	Understand basic principles of test construction and formats (e.g., reliability, validity, criterion, normed).
3.3	Interpret basic statistics commonly utilized in formal and informal assessment.
3.4	Know and utilize in practice well-validated screening tests designed to identify students at risk for reading difficulties.
3.5	Understand/apply the principles of progress-monitoring and reporting with Curriculum-Based Measures (CBMs), including graphing techniques.
3.6	Know and utilize in practice informal diagnostic surveys of phonological and phoneme awareness, decoding skills, oral reading fluency, comprehension, spelling, and writing.
3.7	Know how to read and interpret the most common diagnostic tests used by psychologists, speech-language professionals, and educational evaluators.
3.8	Integrate, summarize, and communicate (orally and in writing) the meaning of educational assessment data for sharing with students, parents, and other teachers.

<b>Standard 4: Structured Literacy Instruction</b>	
<b>Substandard A: Essential Principles and Practices of Structured Literacy Instruction</b>	
4A.1	Understand/apply in practice the general principles and practices of structured language and literacy teaching, including explicit, systematic, cumulative, teacher-directed instruction.
4A.2	Understand/apply in practice the rationale for multisensory and multimodal language-learning techniques.
4A.3	Understand rationale for/Adapt instruction to accommodate individual differences in cognitive, linguistic, sociocultural, and behavioral aspects of learning.
<b>Substandard B: Phonological and Phonemic Awareness</b>	
4B.1	Understand rationale for/identify, pronounce, classify, and compare all the consonant phonemes and all the vowel phonemes of English.
4B.2	Understand/apply in practice considerations for levels of phonological sensitivity.
4B.3	Understand/apply in practice considerations for phonemic-awareness difficulties.
4B.4	Know/apply in practice consideration for the progression of phonemic-awareness skill development, across age and grade.
4B.5	Know/apply in practice considerations for the general and specific goals of phonemic-awareness instruction.
4B.6	Know/apply in practice considerations for the principles of phonemic-awareness instruction: brief, multisensory, conceptual, articulatory, auditory-verbal.
4B.7	Know/apply in practice considerations for the utility of print and online resources for obtaining information about languages other than English.
<b>Substandard C: Phonics and Word Recognition</b>	
4C.1	Know/apply in practice considerations for the structure of English orthography and the patterns and rules that inform the teaching of single- and multisyllabic regular word reading.
4C.2	Know/apply in practice considerations for systematically, cumulatively, and explicitly teaching basic decoding and spelling skills.
4C.3	Know/apply in practice considerations for organizing word recognition and spelling lessons by following a structured phonics lesson plan.
4C.4	Know/apply in practice considerations for using multisensory routines to enhance student engagement and memory.
4C.5	Know/apply in practice considerations for adapting instruction for students with weaknesses in working memory, attention, executive function, or processing speed.
4C.6	Know/apply in practice considerations for teaching irregular words in small increments using special techniques.
4C.7	Know/apply in practice considerations for systematically teaching the decoding of multisyllabic words.
4C.8	Know/apply in practice considerations for the different types and purposes of texts, with emphasis on the role of decodable texts in teaching beginning readers.
<b>Substandard D: Automatic, Fluent Reading of Text</b>	
4D.1	Know/apply in practice considerations for the role of fluent word-level skills in automatic word reading, oral reading fluency, reading comprehension, and motivation to read.
4D.2	Know/apply in practice considerations for varied techniques and methods for building reading fluency.
4D.3	Know/apply in practice considerations for text reading fluency as an achievement of normal reading development that can be advanced through informed instruction and progress-monitoring practices.
4D.4	Know/apply in practice considerations for appropriate uses of assistive technology for students with serious limitations in reading fluency.
<b>Substandard E: Vocabulary</b>	
4E.1	Know/apply in practice considerations for the role of vocabulary development and vocabulary knowledge in oral and written language comprehension.
4E.2	Know/apply in practice considerations for the sources of wide differences in students' vocabularies.
4E.3	Know/apply in practice considerations for the role and characteristics of indirect (contextual) methods of vocabulary instruction.
4E.4	Know/apply in practice considerations for the role and characteristics of direct, explicit methods of vocabulary instruction.
<b>Substandard F: Listening and Reading Comprehension</b>	
4F.1	Know/apply in practice considerations for factors that contribute to deep comprehension.
4F.2	Know/apply in practice considerations for instructional routines appropriate for each major genre: informational text, narrative text, and argumentation.
4F.3	Know/apply in practice considerations for the role of sentence comprehension in listening and reading comprehension.

4F.4	Know/apply in practice considerations for the use of explicit comprehension strategy instruction, as supported by research.
4F.5	Know/apply in practice considerations for the teacher's role as an active mediator of text-comprehension processes.
<b>Substandard G: Written Expression</b>	
4G.1	Understand the major skill domains that contribute to written expression.
4G.2	Know/apply in practice considerations for research-based principles for teaching letter formation, both manuscript and cursive.
4G.3	Know/apply in practice considerations for research-based principles for teaching written spelling and punctuation.
4G.4	Know/apply in practice considerations for the developmental phases of the writing process.
4G.5	Know/apply in practice considerations for the appropriate uses of assistive technology in written expression.
<b>Standard 5: Professional Dispositions and Practices</b>	
5.1	Strive to do no harm and to act in the best interests of struggling readers and readers with dyslexia and other reading disorders.
5.2	Maintain the public trust by providing accurate information about currently accepted and scientifically supported best practices in the field.
5.3	Avoid misrepresentation of the efficacy of educational or other treatments or the proof for or against those treatments.
5.4	Respect objectivity by reporting assessment and treatment results accurately, and truthfully.
5.5	Avoid making unfounded claims of any kind regarding the training, experience, credentials, affiliations, and degrees of those providing services.
5.6	Respect the training requirements of established credentialing and accreditation organizations supported by CERl and IDA.
5.7	Avoid conflicts of interest when possible and acknowledge conflicts of interest when they occur.
5.8	Support just treatment of individuals with dyslexia and related learning difficulties.
5.9	Respect confidentiality of students or clients.
5.10	Respect the intellectual property of others.

## Knowledge and Practice Standards for Teachers of Reading Includes Knowledge and Practice Examples

STANDARD 1: FOUNDATIONS OF LITERACY ACQUISITION	
Substandard	Examples of Coursework Expectations
1.1 Understand the (s) language processing requirements of proficient reading and writing: phonological, orthographic, semantic, syntactic, discourse.	<ul style="list-style-type: none"> <li>Explain the domains of language (phonology, morphology, syntax, semantics, pragmatics) and their importance to proficient reading and writing.</li> </ul>
1.2 Understand that learning to read, for most people, requires explicit instruction.	<ul style="list-style-type: none"> <li>Explain how most people learn to read, how reading acquisition differs from language acquisition, and how writing systems differ from oral language systems.</li> <li>Know that the brain has to establish new neural circuits, linking language and visual regions, to become skilled at reading.</li> </ul>
1.3 Understand the reciprocal relationships among phonemic awareness, decoding, word recognition, spelling, and vocabulary knowledge.	<ul style="list-style-type: none"> <li>Cite evidence and give practical examples showing how phonemic awareness affects attaining the alphabetic principle, decoding and spelling development, and storage and retrieval of spoken words, and that learning to read affects aspects of language processing, including the extent of phonemic awareness and precision of phonological representations of words in our mental dictionaries.</li> </ul>
1.4 Identify and explain aspects of cognition and behavior that affect reading and writing development.	<ul style="list-style-type: none"> <li>Cite examples of tasks or tests that measure each general cognitive factor; explain how problems in these areas might be observed in classroom learning.</li> <li>Identify how the following aspects of cognition and behavior affect reading and writing development: attention, automaticity, executive function, verbal memory, processing speed, graphomotor control.</li> </ul>
1.5 Identify (and explain how) environmental, cultural, and social factors contribute to literacy development.	<ul style="list-style-type: none"> <li>Explain major research findings regarding the contribution of environmental factors to the prediction of literacy outcomes (e.g., language spoken at home, language and literacy experiences, cultural values).</li> </ul>
1.6 Explain major research findings regarding the contribution of linguistic and cognitive factors to the prediction of literacy outcomes.	<ul style="list-style-type: none"> <li>Identify and explain the contribution of linguistic and cognitive factors to the prediction of literacy outcomes.</li> </ul>
1.7 Understand the most common intrinsic differences between good and poor readers (i.e., linguistic, cognitive, and neurological).	<ul style="list-style-type: none"> <li>Explain the defining characteristics of major types of reading difficulties (i.e., dyslexia, fluency deficits, specific reading comprehension difficulties, mixed reading difficulties).</li> <li>Recognize the major types of reading difficulties when they manifest in a student's developmental history, test performance, and reading behavior.</li> </ul>
1.8 Know phases in the typical developmental progression of oral language, phoneme awareness, decoding skills, printed word recognition, spelling, reading fluency, reading comprehension, and written expression.	<ul style="list-style-type: none"> <li>Identify the most salient instructional needs of students who are at different points of reading and writing development.</li> </ul>
1.9 Understand the changing relationships among the major components of literacy development in accounting for reading achievement.	<ul style="list-style-type: none"> <li>Explain the importance of code-emphasis instruction in the early grades and language comprehension once word-recognition skill is established; recognize that vocabulary and other aspects of oral language development must be nurtured from the earliest grades through reading aloud and classroom dialogue.</li> </ul>

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STANDARD 2: KNOWLEDGE OF DIVERSE READING PROFILES, INCLUDING DYSLLEXIA	
Substandard	Examples of Coursework Expectations
2.1 Recognize the tenets of the (2003) IDEA definition of dyslexia, or any accepted revisions thereof.	<ul style="list-style-type: none"> <li>Explain the reasoning or evidence behind key terms in the definition (e.g., neurobiological origin, phonological component of language); distinguish evidence-based tenets from popular but unsupported beliefs and claims about dyslexia (e.g., dyslexia is a visual problem; people with dyslexia have unusual talents).</li> </ul>
2.2 Know fundamental provisions of federal and state laws that pertain to learning disabilities, including dyslexia and other reading and language disability subtypes.	<ul style="list-style-type: none"> <li>Explain the most fundamental provisions of federal and state laws (IDEA, 504, etc.) pertaining to the rights of students with disabilities, especially students' rights to a free, appropriate public education, an individualized educational plan, services in the least restrictive environment, and due process.</li> <li>Distinguish IEP goals and objectives that are clear, specific, appropriate to students' needs, and attainable.</li> </ul>
2.3 Identify the distinguishing characteristics of dyslexia.	<ul style="list-style-type: none"> <li>Cite research-based prevalence estimates for disorders of word recognition, reading fluency, reading comprehension, spelling, handwriting and written expression; cite research-based differences between good and poor readers, depending on the kind of reading disability, with regard to learning word-recognition and decoding skills as compared to listening and reading comprehension.</li> </ul>
2.4 Understand how reading disabilities vary in presentation and degree.	<ul style="list-style-type: none"> <li>Recognize levels of instructional intensity, frequency, and duration appropriate for mild, moderate, and severe reading disabilities, with the scope of instruction corresponding to the type of reading difficulties (e.g., dyslexia, specific reading comprehension) to attain catch-up growth and annual growth. Identify how to coordinate regular classroom instruction and other forms of intervention, including highly specialized settings.</li> <li>Recognize the indicators of a primary disability in reading fluency, including slow processing speed, slow RAN, and nonautomatic word recognition (failure to read words by sight).</li> </ul>
2.5 Understand how and why symptoms of reading difficulty are likely to change over time in response to development and instruction.	<ul style="list-style-type: none"> <li>Recognize how the symptoms of dyslexia or other reading difficulties change as literacy develops and how instructional priorities and emphases should change accordingly.</li> </ul>

STANDARD 3: ASSESSMENT	
Substandard	Examples of Coursework Expectations
3.1. Understand the differences among and purposes for screening, progress-monitoring, diagnostic, and outcome assessments.	<ul style="list-style-type: none"> <li>State the major purposes for each kind of assessment and identify examples of each.</li> </ul>
3.2. Understand basic principles of test construction and formats (e.g., reliability, validity, criterion, normed).	<ul style="list-style-type: none"> <li>Distinguish examples of valid and invalid assessment tools or strategies; demonstrate respect for and fidelity to standardized administration procedures.</li> <li>Interpret grade equivalents, age equivalents, normal curve equivalents, percentiles, risk classifications, fluency norms, and standard scores.</li> <li>Recognize the most appropriate types of norm-referenced scores to report and use for interpretation of performance (e.g., percentiles and standard scores rather than grade or age equivalents); interpret grade versus age norms.</li> </ul>
3.3. Interpret basic statistics commonly utilized in formal and informal assessment.	<ul style="list-style-type: none"> <li>Learn standardized administration of one valid, reliable screening test; administer it to a student or a group of students, and interpret the instructional implications of the results. A valid screening tool that flags students at risk for reading difficulties is likely to selectively, briefly, and efficiently sample subskills such as the following: <ul style="list-style-type: none"> <li>Letter naming</li> <li>Phoneme isolation and identification, segmentation, blending, and/or manipulation</li> <li>Phonics correspondences (sound-symbol relationships)</li> <li>Spelling and phonetic accuracy of spelling attempts</li> <li>Word reading, real and/or nonsense words</li> <li>Oral reading fluency (timed reading of short passages)</li> </ul> </li> <li>Reading comprehension</li> </ul>
3.4. Know and utilize in practice well-validated screening tests designed to identify students at risk for reading difficulties.	<ul style="list-style-type: none"> <li>Learn standardized administration of one valid, reliable screening test; administer it to a student or a group of students, and interpret the instructional implications of the results. A valid screening tool that flags students at risk for reading difficulties is likely to selectively, briefly, and efficiently sample subskills such as the following: <ul style="list-style-type: none"> <li>Letter naming</li> <li>Phoneme isolation and identification, segmentation, blending, and/or manipulation</li> <li>Phonics correspondences (sound-symbol relationships)</li> <li>Spelling and phonetic accuracy of spelling attempts</li> <li>Word reading, real and/or nonsense words</li> <li>Oral reading fluency (timed reading of short passages)</li> </ul> </li> <li>Reading comprehension</li> </ul>
3.5. Understand/apply the principles of progress monitoring and reporting with CBMs, including graphing techniques.	<ul style="list-style-type: none"> <li>Administer, interpret, and graph or summarize the results of CBMs that directly assess student progress in reading, spelling, and writing and/or the relevant literacy subskills that are targeted for instruction.</li> <li>Explain the advantages of CBM for progress monitoring (e.g., ease and speed of administration, sensitivity to incremental progress, availability of multiple equivalent forms).</li> </ul>

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<p>3.6 Know and utilize in practice informal diagnostic surveys of phonological and phonemic awareness, decoding skills, oral reading fluency, comprehension, spelling, and writing.</p>	<ul style="list-style-type: none"> <li>• Administer and interpret informal (e.g., not norm-referenced) diagnostic surveys and inventories for the purpose of pinpointing a student's strengths, weaknesses, and instructional needs in the following areas:             <ul style="list-style-type: none"> <li>• Phonological sensitivity (in preschool) and phonemic awareness (in kindergarten and later)</li> <li>• Accuracy and fluency of letter naming, letter formation, alphabet knowledge</li> <li>• Phonics and application of introductory and advanced phonics to spelling and word reading</li> <li>• Oral passage reading fluency and comprehension</li> <li>• Silent passage reading comprehension and recall</li> <li>• Listening comprehension and recall</li> <li>• Morpheme recognition, interpretation, and spelling</li> <li>• Automatic recognition of high-frequency words</li> <li>• Writing performance (punctuation, capitals, syntax, organization, content, spelling, vocabulary)</li> </ul> </li> </ul>
<p>3.7 Know how to read and interpret the most common diagnostic tests used by psychologists, speech-language professionals, and educational evaluators.</p>	<ul style="list-style-type: none"> <li>• Understand and use relevant information from formal assessments administered by licensed examiners, including current versions of these instruments, such as the following:             <ul style="list-style-type: none"> <li>• Clinical Evaluation of Language Fundamentals (CELF)</li> <li>• Comprehensive Test of Phonological Processing (C-TOPP)</li> <li>• Peabody Picture Vocabulary Test (PPVT)</li> <li>• Rapid Automatic Naming Test (RAN)</li> <li>• Test of Word Reading Efficiency (TOWRE)</li> <li>• Woodcock-Johnson Tests of Cognitive Ability and Achievement (WJRI)</li> </ul> </li> </ul>
<p>3.8 Integrate, summarize, and communicate (orally and in writing) the meaning of educational assessment data for sharing with students, parents, and other teachers.</p>	<ul style="list-style-type: none"> <li>• Explicitly link information from screenings, diagnostic surveys, progress monitoring, and descriptive data to instructional decisions governing the content, entry point, pace, intensity, student grouping, and methods for literacy intervention.</li> </ul>

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STANDARD 4: STRUCTURED LITERACY INSTRUCTION		
A: ESSENTIAL PRINCIPLES AND PRACTICES OF STRUCTURED LITERACY INSTRUCTION		
Substandard	Examples of Coursework Expectations	Examples of Practicum or Fieldwork Expectations
4A.1 Understand/apply in practice the general principles and practices of structured language and literacy teaching, including explicit, systematic, cumulative, teacher-directed instruction.	<ul style="list-style-type: none"> <li>Identify the principles and lesson elements of explicit and teacher-directed lessons for classroom instruction; explain, model, lead, provide guided practice, assess, review.</li> <li>Cite the major consensus findings on reading instruction from the National Reading Panel, the National Early Literacy Panel, relevant IES Practice Guides, and other current consensus reports regarding the science of reading.</li> <li>Identify the principles and lesson elements of explicit and teacher-directed lessons for individual or small-group instruction; explain, model, lead, provide guided practice, assess, review.</li> <li>Identify the characteristics of systematic teaching that gradually and cumulatively build students' skills from easier to more difficult.</li> <li>Explain the limits of whole-class instruction, and cite research indicating the merits of small-group instruction for homogeneously grouped students.</li> </ul>	<ul style="list-style-type: none"> <li>Plan and deliver lessons with a cumulative progression of skills that build on one another.</li> <li>Provide sufficient practice with connected text. During the early grades, use decodable text aligned with phonics patterns that the student has been taught, and progress to less-controlled text as the student internalizes.</li> <li>Differentiate instruction based on students' progress in each language and literacy domain. Group accordingly for lessons in each area of language and literacy (e.g., phonemic awareness, decoding, fluency, vocabulary, language comprehension and expression, written language).</li> <li>Recognize and avoid intervention practices and program characteristics that contrast with or are not aligned with structured literacy practices.</li> </ul>
4A.2 Understand/apply in practice the rationale for multisensory and multimodal language-learning techniques.	<ul style="list-style-type: none"> <li>State the rationale for multisensory and multimodal techniques, with reference to brain science, cognitive science, and long-standing clinical practice using these methods.</li> <li>Given a single-modality task, adapt it so that it becomes multisensory.</li> </ul>	<ul style="list-style-type: none"> <li>Structure learning activities and tasks so they require the simultaneous use of two or three learning modalities (including listening, speaking, moving, touching, reading, and/or writing) to increase engagement and enhance memory.</li> </ul>
4A.3 Understand rationale for/adapt instruction to accommodate individual differences in cognitive, linguistic, sociocultural, and behavioral aspects of learning.	<ul style="list-style-type: none"> <li>Identify logical adaptations of instruction for students with weaknesses in language, working memory, attention, executive function, or processing speed.</li> <li>Respond adaptively and constructively to cultural norms and family/community literacy practices affecting student learning.</li> </ul>	<ul style="list-style-type: none"> <li>Adapt task content, task presentation (amount/complexity of information, mode of presentation) and task requirements (accuracy, speed, length, manner of response) to ensure optimal rate of student success.</li> </ul>

STANDARD 4: STRUCTURED LITERACY INSTRUCTION  
B: PHONOLOGICAL AND PHONEMIC AWARENESS

Substandard	Examples of Coursework Expectations	Examples of Practicum or Fieldwork Expectations
4B.1 Understand rationale for/identify, pronounce, classify, and compare all the consonant phonemes and all the vowel phonemes of English.	<ul style="list-style-type: none"> <li>Discuss why phonemic awareness is necessary for learners of alphabetic writing systems.</li> <li>Explain the difference between phonological awareness, phonemic awareness, and phonics.</li> <li>Identify phonemes that are more likely to be confused with each other because they share articulatory features and thus sound similar.</li> <li>Identify phonemes in words in which the spelling does not transparently represent the phoneme (e.g., dogs, sure, ink).</li> </ul>	<ul style="list-style-type: none"> <li>Explicitly teach articulatory features of phonemes and words during PA lessons by such techniques as modeling, using a mirror, describing the speech sound, or using a hand gesture or mouth picture to illustrate the way the speech sound is produced.</li> <li>Deliberately choose wide (e.g., /m/, /z/) or narrow (e.g., /n/, /l/) phoneme contrasts during instruction, depending on the students' phase of phonemic-awareness development.</li> <li>For students who may be relying on spelling or letter knowledge to perform a phonemic-awareness task, reinforce attention to sound by using words in phonemic-awareness tasks whose spellings do not transparently represent the phonemes.</li> </ul>
4B.2 Understand/apply in practice considerations for levels of phonological sensitivity.	<ul style="list-style-type: none"> <li>Explain the general developmental progression of phonological sensitivity and provide examples of each.</li> <li>Identify, count, and separately pronounce the syllables in multisyllabic words.</li> <li>Blend and segment onset-rime units in one-syllable words.</li> <li>Recognize and generate rhymes of words with one or more syllables (e.g., my/pie; mountain/fountain).</li> <li>Identify the number of phonemes in a spoken word.</li> <li>Isolate a given phoneme in a spoken word.</li> </ul>	<ul style="list-style-type: none"> <li>Explicitly and accurately label the linguistic unit of focus in any phonological-sensitivity lesson (syllable, onset-rime, rhyming word).</li> <li>Choose wide contrasts for beginning rhyme tasks (e.g., fan/seat vs. fan/pin).</li> <li>Know activities that would help children acquire these early, basic phonological-sensitivity skills (e.g., rhyme recognition and rhyme production, syllable counting, first sound matching, first sound segmentation) in words with a simple onset that has only one phoneme, blending onset and rime.</li> </ul>
4B.3 Understand/apply in practice considerations for phoneme awareness difficulties.	<ul style="list-style-type: none"> <li>Identify reasons why students may experience difficulty with phonemic-awareness tasks (e.g., coarticulation effect).</li> <li>Identify common allophonic variations (changes of speech sounds in natural speech), often resulting from coarticulation, that alter how certain phonemes are produced and sound.</li> </ul>	<ul style="list-style-type: none"> <li>When introducing a phoneme, select word examples that minimize coarticulation effects.</li> <li>Select key words to illustrate each phoneme that feature nondistorted phonemes (no coarticulation effect).</li> <li>For phonemic-awareness instruction, clearly focus on the speech sound, not the letter name for spelling a phoneme.</li> </ul>
4B.4 Know/apply in practice consideration for the progression of phonemic-awareness skill development, across age and grade.	<ul style="list-style-type: none"> <li>Identify the common progression of phonological and phonemic-awareness skills as related to student grade levels.</li> <li>Plan to link phoneme knowledge with letter (grapheme) knowledge as the student progresses.</li> </ul>	<ul style="list-style-type: none"> <li>Plan and deliver a scope and sequence of systematic phonological and phonemic-awareness instruction.</li> <li>Select and implement PA activities that correspond with a student's level of PA development, proceeding to the next level when mastery is attained on the prior phase.</li> <li>Know a variety of activities for each level of phonological and phonemic awareness.</li> </ul>

<p>4B.5 Know/apply in practice considerations for the general and specific goals of phonemic-awareness instruction.</p>	<ul style="list-style-type: none"> <li>Align PA instruction to reading and spelling goals, for example, making identification of a short vowel in spoken one-syllable words a prerequisite for learning the letter that represents that short vowel in print.</li> </ul>	<ul style="list-style-type: none"> <li>Routinely incorporate phonemic-awareness instruction into reading, spelling, and vocabulary instruction.</li> </ul>
<p>4B.6 Know/apply in practice considerations for the principles of phonemic-awareness instruction: brief, multisensory, conceptual, articulatory, auditory-verbal.</p>	<ul style="list-style-type: none"> <li>Plan to provide brief (5–10 minute), distributed, multisensory phonemic-awareness activities during structured literacy classroom teaching and/or intervention for 15–20 weeks (or more, as needed, to reach curricular goals) in K-1 and for students who need remedial instruction after first grade.</li> </ul>	<ul style="list-style-type: none"> <li>Use tactile and kinesthetic aids, such as blocks, chips, sound boxes, body mapping, finger tapping, and left-to-right hand motions in learning a variety of early, basic, and more advanced PA activities as appropriate.</li> </ul>
<p>4B.7 Know/apply in practice considerations for the utility of print and online resources for obtaining information about languages other than English.</p>	<ul style="list-style-type: none"> <li>Compare a student's first language phonological system with Standard American English to anticipate which speech sounds in English are not in the student's native language or dialect and are likely to be challenging for the learner to distinguish and produce.</li> </ul>	<ul style="list-style-type: none"> <li>Explicitly teach the phonemes of English that the EL or nonstandard dialect user may not have in his or her first language.</li> <li>Provide practice distinguishing the new phoneme from similarly articulated phonemes (e.g., for children who speak Spanish, classifying spoken words in English as starting with /sh/ or with /ch/).</li> </ul>

**STANDARD 4: STRUCTURED LITERACY INSTRUCTION  
C: PHONICS AND WORD RECOGNITION**

<b>Substandard</b>	<b>Examples of Coursework Expectations</b>	<b>Examples of Practicum or Fieldwork Expectations</b>
<p>4C.1 Know/apply in practice considerations for the structure of English orthography and the patterns and rules that inform the teaching of single- and multisyllable regular word reading.</p>	<ul style="list-style-type: none"> <li>Define key terms (e.g., <i>grapheme, phoneme, syllable, suffix</i>), and identify examples of each.</li> <li>Map regular words by phoneme-grapheme (or grapheme-phoneme) correspondences.</li> <li>Sort single-syllable regular words according to written syllable type (closed, open, vowel-consonant-e, vowel team, r-controlled, consonant-le).</li> <li>Divide two-syllable words using the most useful syllable division principles (VC/CV; V/CV; VCVN; VC/CCV; VCC/CV consonant-le).</li> <li>Identify morphemes in common words, including prefixes, inflectional and derivational suffixes, roots, and combining forms.</li> <li>Explain why the English writing system is, in fact, highly regular and that words that are not fully regular usually differ in one phoneme/grapheme correspondence and preserve morphological information.</li> </ul>	<ul style="list-style-type: none"> <li>Choose accurate examples for linguistic and orthographic concepts.</li> <li>Use appropriate and accurate terminology during structured literacy teaching.</li> <li>Correct student errors in word reading and spelling by providing insight into the language and/or orthographic structures in those words.</li> <li>Communicate to students that nearly all words can be read using knowledge of speech-to-print relationships and that those with an irregularity usually just differ in one grapheme.</li> </ul>
<p>4C.2 Know/apply in practice considerations for systematically, cumulatively, and explicitly teaching basic decoding and spelling skills.</p>	<ul style="list-style-type: none"> <li>Identify where any given skill fits into a scope and sequence.</li> <li>Order decoding concepts from easier to more difficult.</li> </ul>	<ul style="list-style-type: none"> <li>Teach the system of correspondences in a logical progression (simple to complex).</li> <li>Use student assessment data to guide the development of a scope and sequence/where to begin instruction.</li> <li>Use assessment data to develop measurable, observable instructional goals and objectives. (Interventionists and specialists should develop these in line with IEP/504 expectations.)</li> </ul>
<p>4C.3 Know/apply in practice considerations for organizing word-recognition and spelling lessons by following a structured phonics lesson plan.</p>	<ul style="list-style-type: none"> <li>Use a lesson framework that includes review of a previously learned skill or concept, introduction of a new skill or concept, supported practice, independent practice, and fluent application to meaningful reading and/or writing.</li> <li>Describe or demonstrate each of the following word work activities and their purpose in relation to the lesson plan: word sorting, quick speed drills, sound (Elkonin) boxes with letters and Graphemes, word building, word chaining, writing to dictation.</li> </ul>	<ul style="list-style-type: none"> <li>Effectively teach all steps in an explicit phonics lesson. (For example, develop phonemic awareness, introduce sound/spelling correspondence, blend and read words, practice word chaining, build automatic word recognition, spell and write selected lesson words, and apply to decodable text reading.)</li> </ul>

<p>4C.4 Know/apply in practice considerations for using multisensory routines to enhance student engagement and memory.</p>	<ul style="list-style-type: none"> <li>Plan to incorporate multisensory learning (e.g., simultaneously employing two or three modalities, including looking, listening, speaking, touching, moving).</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate fluent execution of at least two teacher-led sound-blending techniques cued by the hand or moveable objects (chips, tiles, etc.).</li> <li>Fluently manage and manipulate tangible instructional materials, such as alphabet arcs, sound-symbol cards, and grapheme tiles. Employ signals, such as hand gestures, to cue student responses during phonemic-awareness and reading activities.</li> <li>Adapt the pace, format, content, strategy, or emphasis of instruction to increase student success.</li> </ul>
<p>4C.5 Know/apply in practice considerations for adapting instruction for students with weaknesses in working memory, attention, executive function, or processing speed.</p>	<ul style="list-style-type: none"> <li>Identify how instruction can be modified to increase attention, support memory, build fluency, or support strategy use by students.</li> </ul>	
<p>4C.6 Know/apply in practice considerations for teaching irregular words in small increments using special techniques.</p>	<ul style="list-style-type: none"> <li>Distinguish among high-frequency regular/irregular words.</li> <li>Define sight words in relation to regular/irregular words.</li> <li>Place words on a continuum of fully predictable, partially or conditionally pattern-based, and unique (not belonging to a word family).</li> <li>Identify which part of a given word would be unknown to a student on the basis of previous instruction.</li> <li>Identify/describe the three factors to consider when determining how to introduce irregular words within a reading program (word frequency, word similarity, word meaning).</li> </ul>	<ul style="list-style-type: none"> <li>Introduce high-frequency words (both regular and irregular) a few words at a time in tandem with teaching decoding and spelling patterns to support reading of connected text.</li> <li>Provide frequent, distributed practice of high-frequency words until recognized and/or spelled accurately and automatically.</li> <li>Teach truly irregular words through a multisensory approach, emphasizing spelling regularities, word origin, meaning, and/or pronunciation whenever possible to make sense of the word's spelling.</li> </ul>
<p>4C.7 Know/apply in practice considerations for systematically teaching the decoding of multisyllabic words.</p>	<ul style="list-style-type: none"> <li>Teach written syllable types in a logical sequence (e.g., closed, open, vowel-consonant-e, vowel team, consonant-le, r-controlled).</li> <li>Identify the difference between syllable division in natural speech and syllable division in printed words.</li> <li>Clearly distinguish morphemes from syllables while identifying word parts.</li> </ul>	<ul style="list-style-type: none"> <li>Explicitly teach written syllable types and written syllable division principles to support the reading of multisyllable words.</li> <li>Explicitly teach students how to isolate roots and affixes to support multisyllable word reading.</li> <li>Teach the meaning of common affixes and roots.</li> <li>Teach additional strategies for decoding longer words, such as identifying the pronounced vowels, suffixes, and prefixes, and flexing the decoded vowels (i.e., define, definition, definitive) if necessary.</li> </ul>



<p>4C.8 Know/apply in practice considerations for the different types and purposes of texts, with emphasis on the role of decodable texts in teaching beginning readers.</p>	<ul style="list-style-type: none"> <li>Describe how decodable texts differ from predictable and high-frequency word texts in structure and purpose.</li> <li>Identify and define word types: wholly decodable words, irregular words (previously taught), and nondecodable words (not wholly decodable or previously taught).</li> <li>Analyze a decodable text to identify word types (wholly decodable, introduced high-frequency words, nondecodable words), and list words identified by type; calculate percentage of each type of word present in the text.</li> </ul>	<ul style="list-style-type: none"> <li>Effectively develop or select, and utilize, decodable texts to support developing readers in applying taught phonics concepts in context.</li> <li>Select instructional-level texts for student reading that correspond to the content and purpose of students' reading skill lessons.</li> <li>Discern texts that do not support decoding lessons because they contain too many untaught word patterns and high-frequency words.</li> </ul>
<b>STANDARD 4: STRUCTURED LITERACY INSTRUCTION</b> <b>D. AUTOMATIC, FLUENT READING OF TEXT</b>		
<p><b>Substandard</b></p> <p>4D.1 Know/apply in practice considerations for the role of fluent word-level skills in automatic word reading, oral reading fluency, reading comprehension, and motivation to read.</p>	<p><b>Examples of Coursework Expectations</b></p> <ul style="list-style-type: none"> <li>Explain why all component skills for reading development must become accurate and rapid to support more advanced reading skills (e.g., knowledge of letter names/sounds, phonemic awareness, decoding).</li> <li>Explain how phoneme-grapheme mapping underpins the development of accurate, automatic word recognition.</li> <li>Explain the interdependence of phonic decoding, word recognition, oral reading fluency, vocabulary, and silent reading comprehension.</li> </ul>	<p><b>Examples of Practicum or Fieldwork Expectations</b></p> <ul style="list-style-type: none"> <li>Select and use fluency-building routines and activities for both automatic application of literacy subskills and for text reading, as appropriate.</li> <li>Identify relevant apps or computer games for building automaticity in word recognition.</li> <li>Choose instructional materials to build automaticity in subskills/practice reading texts of appropriate difficulty.</li> </ul>
<p>4D.2 Know/apply in practice considerations for varied techniques and methods for building reading fluency.</p>	<ul style="list-style-type: none"> <li>Describe the role of and appropriate use of independent silent reading, assisted reading, repeated reading, and integrated fluency instruction to promote fluent reading of text.</li> <li>Describe and role-play fluency-building techniques, including brief speed drills, phrase-cued reading, simultaneous oral reading, alternate oral reading, and repeated readings.</li> <li>Identify and describe ways that repeated oral reading can be adapted to meet students' individual needs.</li> </ul>	<ul style="list-style-type: none"> <li>Define and identify examples of text at a student's frustration, instructional, and independent reading levels; recognize how requirements for word accuracy in instructional and independent reading increase by grade.</li> <li>Provide ample opportunities for student(s) to read connected text daily, with appropriate feedback on decoding errors.</li> <li>Guide the student to correct his or her reading errors, even when contextually appropriate.</li> <li>Incorporate fluency-building routines and activities into reading lessons, including brief speed drills, phrase-cued reading, simultaneous oral reading, alternate oral reading, and/or repeated readings.</li> <li>Adapt the length of tasks, time limits, and scaffolds to enable student success and progress.</li> </ul>

<p>4D.3 Know/apply in practice considerations for text reading fluency as an achievement of normal reading development that can be advanced through informed instruction and progress-monitoring practices.</p>	<ul style="list-style-type: none"> <li>Identify reading subskills that may be appropriate for brief speed drills (e.g., letter naming, word reading, symbol-sound recall)</li> <li>Identify and define the components of passage reading fluency (accuracy, rate, prosody).</li> <li>Interpret CBMs, including oral-reading fluency norms, to develop fluency-building goals with students.</li> </ul>	<ul style="list-style-type: none"> <li>Select, administer, and graph appropriate curriculum-based measures of relevant reading subskills.</li> <li>Effectively administer, score, and interpret an oral-reading fluency curriculum-based measure (CBM).</li> <li>Rate the prosodic quality of a student's oral reading.</li> <li>Develop fluency goals and objectives with students and involve students in graphing progress toward those goals.</li> </ul>
<p>4D.4 Know/apply in practice considerations for appropriate uses of assistive technology for students with serious limitations in reading fluency.</p>	<ul style="list-style-type: none"> <li>Locate and access assistive technology for students with serious limitations in reading fluency.</li> </ul>	<ul style="list-style-type: none"> <li>Support students in learning to use assistive technology, such as print-to-speech translators, apps, e-books, and audiobooks.</li> </ul>
<b>STANDARD 4: STRUCTURED LITERACY/INSTRUCTION</b> <b>E. VOCABULARY</b>		
<b>Substandard</b>		
<p>4E.1 Know/apply in practice considerations for the role of vocabulary development and vocabulary knowledge in oral and written language comprehension.</p>	<p><b>Examples of Coursework Expectations</b></p> <ul style="list-style-type: none"> <li>Identify and summarize the evidence that knowledge of word meanings is a major factor in language comprehension and expression.</li> <li>Summarize the findings of the National Reading Panel, the National Early Literacy Panel, and current IES Practice Guides with regard to vocabulary instruction.</li> <li>Identify and discuss the classroom indicators of students' vocabulary strengths and weaknesses, such as limited range of word use, confusion about multiple meanings of words, lack of understanding of idioms, slow word retrieval, and poor-quality definitions.</li> </ul>	<p><b>Examples of Practicum or Fieldwork Expectations</b></p> <ul style="list-style-type: none"> <li>Habitually include vocabulary-building activities and routines during all instruction.</li> <li>Recognize when a particular vocabulary-building activity (e.g., morphemic analysis, contextual analysis) is more or less appropriate depending on the word being taught.</li> </ul>
<p>4E.2 Know/apply in practice considerations for the sources of wide differences in students' vocabularies.</p>	<ul style="list-style-type: none"> <li>Identify the intrinsic and extrinsic (environmental) factors that are causally related to vocabulary growth, including adult-child interaction patterns; school, socioeconomic, and community contexts; first language other than English; and neurodevelopmental differences in language processing.</li> <li>Discuss the vocabulary gap in root word knowledge and the implications for vocabulary instruction.</li> </ul>	<ul style="list-style-type: none"> <li>Include at least an informal assessment of student vocabulary in screening; refer for speech/language assessment when appropriate.</li> <li>Choose reading materials (read aloud and student reading) that expand vocabulary knowledge.</li> </ul>

<p>4E.3 Know/apply in practice considerations for the role and characteristics of indirect (contextual) methods of vocabulary instruction.</p>	<ul style="list-style-type: none"> <li>• Cite and summarize evidence that supports teacher modeling, classroom conversation, reading aloud, wide independent reading, independent word-learning strategies, and word play in building student vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>• Promote a rich language environment by scaffolding high-quality language in student dialogue, reading appropriate children’s literature aloud, engaging students in classwide activities involving vocabulary, and modeling academic language use.</li> </ul>
<p>4E.4 Know/apply in practice considerations for the role and characteristics of direct, explicit methods of vocabulary instruction.</p>	<ul style="list-style-type: none"> <li>• Identify how many words can be taught directly over the course of a school year, and develop a rationale for selecting those words, with modifications for ELs.</li> <li>• Identify and describe activities designed to teach meaningful relationships among words.</li> <li>• Link explicit instruction in prefixes, roots, and suffixes to build knowledge of word meanings.</li> <li>• Identify and describe vocabulary-building strategies that are particularly promising for use with ELs.</li> <li>• Explain or identify the difference between basic interpersonal communication skills and academic language proficiency for ELs.</li> </ul>	<ul style="list-style-type: none"> <li>• Plan and deliver lessons that involve evidence-based shared storybook practices, such as Dialogic Reading, that focus on vocabulary and language enrichment.</li> <li>• Know the shortcomings for vocabulary building of activities that require looking up words in a dictionary and writing a sentence with the word.</li> <li>• Prioritize words for explicit, in-depth teaching that are central to the meaning of a text or topic and likely to generalize to other contexts (Beck’s Tier Two words).</li> <li>• Adopt and use a routine for introducing and providing practice with new word meanings.</li> <li>• Teach recognition of familiar morphemes, especially in Latin- and Greek-derived words.</li> <li>• Teach word relationships, such as antonyms, synonyms, associations, multiple meanings, and shades of meaning.</li> <li>• Provide varied practice sufficient for students to use new vocabulary in speaking and writing.</li> <li>• Modify instruction for ELs by using visual and tactile-kinesthetic supports, cognates, and additional spoken rehearsal and by teaching high-frequency words.</li> </ul>

STANDARD 4: STRUCTURED LITERACY/INSTRUCTION F: LISTENING AND READING COMPREHENSION		
Substandard	Examples of Coursework Expectations	Examples of Practicum or Fieldwork Expectations
4F.1 Know/apply in practice considerations for factors that contribute to deep comprehension.	<ul style="list-style-type: none"> <li>Articulate a framework for comprehension instruction that addresses all major contributors to this domain, including background knowledge, vocabulary, verbal reasoning ability, sentence processing, knowledge of literary structures and conventions, and skills and strategies for close reading of text.</li> </ul>	<ul style="list-style-type: none"> <li>Plan and deliver comprehensive listening and/or reading comprehension lessons that address background knowledge, interpretation of vocabulary and academic language, and text structure using strategies that fit the text.</li> </ul>
4F.2 Know/apply in practice considerations for instructional routines appropriate for each major genre: informational text, narrative text, and argumentation.	<ul style="list-style-type: none"> <li>Contrast the characteristics of the major text genres, including narrative, informational, and argumentation.</li> <li>Identify text features that characterize each major genre, including logical organization, typical connecting or signal words, and style of language.</li> <li>Match graphic organizers, titles, and topic sentences to various text structures (e.g., description, compare/contrast, reason/evidence, time sequence).</li> </ul>	<ul style="list-style-type: none"> <li>Teach students the major differences between narrative and informational texts.</li> <li>Teach and support students in using graphic organizers matched to specific informational text structures during reading and while planning written responses.</li> <li>Teach students to recognize and interpret signal words associated with specific informational and narrative text structures.</li> <li>Explicitly teach story grammar and use it to support comprehension and the retelling of narrative.</li> </ul>
4F.3 Know/apply in practice considerations for the role of sentence comprehension in listening and reading comprehension.	<ul style="list-style-type: none"> <li>Define and distinguish among phrases, dependent clauses, and independent clauses in sentence structure.</li> <li>Know techniques of explicit instruction with sentences, such as sentence elaboration, sentence paraphrase, identifying the function of words within a sentence, and sentence combining.</li> <li>Identify phrase, clause, and sentence structures in any text that may pose comprehension challenges, such as figurative language, double negatives, passive voice, embedded clauses, anaphora, and distance between subject and verb.</li> </ul>	<ul style="list-style-type: none"> <li>Teach students how to construct and deconstruct simple, complex, and compound sentences.</li> <li>Use techniques of explicit sentence manipulation, such as sentence elaboration, sentence paraphrase, identifying the function of words within a sentence, and sentence combining, to build syntactic awareness.</li> <li>Teach students how to identify the basic parts of speech and to relate a word's meaning, spelling, and pronunciation to its grammatical role in a sentence.</li> <li>Anticipate challenging language before text reading and prepare to decipher it with students.</li> <li>During an oral reading of text, detect and provide appropriate feedback to students' confusions in comprehension.</li> </ul>

<p>4F.4 Know/apply in practice considerations for the use of explicit comprehension strategy instruction, as supported by research.</p>	<ul style="list-style-type: none"> <li>Identify and describe the comprehension strategies recommended by the National Reading Panel and current IES Practice Guides and for whom and in what contexts they are most likely to improve comprehension.</li> <li>Given a specific text, plan whether and how key strategies might be taught, for example, summarization, question generation, question answering, graphic representation, visualization, guided highlighting, and so forth.</li> </ul>	<ul style="list-style-type: none"> <li>Select and employ specific strategies before, during, and after text reading, as appropriate to the text and the stated purposes for reading.</li> </ul>
<p>4F.5 Know/apply in practice considerations for the teacher's role as an active mediator of text comprehension processes.</p>	<ul style="list-style-type: none"> <li>Understand levels of comprehension processing, including of the surface code (the literal meanings of words), the text base (the meanings underlying the words), and the mental model (the main ideas and details and their connections to each other and to the context).</li> <li>Given a specific text, identify the cohesive devices (pronoun referents, word substitutions, transition words) that are important for comprehension.</li> <li>Given a specific text, generate queries designed to help students construct a mental model of the text's meanings.</li> </ul>	<ul style="list-style-type: none"> <li>Choose high-quality texts for shared reading or reading aloud.</li> <li>Before teaching a text, plan questions that are designed to facilitate inference-making and higher-order reasoning; during reading, use questions strategically to help students clarify, interpret, and build meanings as they read.</li> <li>After reading, ensure that students have understood and can communicate the big ideas or enduring meanings of the text, using a variety of response modes (oral, written, artistic).</li> <li>Plan appropriate adaptations and accommodations that may include the use of technologies to facilitate note-taking, question answering, completion of graphic organizers, or summarization.</li> </ul>
<p><b>STANDARD 4: STRUCTURED LITERACY INSTRUCTION</b> <b>G: WRITTEN EXPRESSION</b></p>		
<p><b>Substandard</b> 4G.1 Understand the major skill domains that contribute to written expression.</p>	<p><b>Examples of Coursework Expectations</b></p> <ul style="list-style-type: none"> <li>Compare and contrast the demands of written composition and text comprehension to explain the additional challenges of writing.</li> <li>Describe the not-so-simple model of writing development.</li> <li>Recognize and explain the interdependence of transcription skills and written composition and of reading and writing.</li> <li>Cite the evidence that writing in response to reading helps both reading comprehension and quality of writing.</li> <li>Know grade and developmental expectations for students' writing in the following areas: mechanics and conventions of writing, composition, revision, and editing processes.</li> </ul>	<p><b>Examples of Practicum or Fieldwork Expectations</b></p> <ul style="list-style-type: none"> <li>Teach both foundational writing skills and composition in writing lessons, devoting grade-appropriate instructional time to each major component.</li> <li>Use shared and supported composition modes while students are learning the skills of transcription (e.g., students compose orally with teacher transcribing).</li> </ul>

<p>4G.2 Know/apply in practice considerations for research-based principles for teaching letter formation, both manuscript and cursive.</p>	<ul style="list-style-type: none"> <li>Identify and rehearse techniques for building handwriting control and legibility, including modeling basic strokes, using verbal descriptions of motor patterns, using numbered arrows, and using appropriate writing implements, posture supports, and paper.</li> <li>Identify and rehearse techniques for building writing fluency.</li> </ul>	<ul style="list-style-type: none"> <li>Use multisensory techniques (e.g., saying and writing together) to teach letter formation.</li> <li>Group letters for practice that require similar motor patterns, and explicitly teach those basic pencil strokes.</li> <li>Model letter formation with visual, motor, and verbal support, lead supervised practice, and provide extended practice with feedback.</li> <li>Adapt instruction and writing materials for left-handed students.</li> <li>Build fluency in letter formation, copying, and transcription through frequent, distributed practice and brief timed activities.</li> </ul>
<p>4G.3 Know/apply in practice considerations for research-based principles for teaching written spelling and punctuation.</p>	<ul style="list-style-type: none"> <li>Recognize and explain the influences of phonological, orthographic, and morphemic knowledge on spelling, so instruction will focus on language structures rather than rote memorization.</li> <li>Identify students' levels of spelling development and orthographic knowledge according to a developmental framework.</li> <li>Identify a progression for teaching punctuation that is related to instruction on phrase and sentence structure and sentence types.</li> <li>Analyze student writing samples and spelling tests to refine instructional targets (e.g., development of phonological awareness, knowledge of spelling rules, awareness of inflectional morphemes).</li> </ul>	<ul style="list-style-type: none"> <li>Select instructional targets that match students' levels of spelling development and that follow a scope and sequence of spelling concepts.</li> <li>Explicitly teach spelling concepts (explain concept, lead practice with feedback, support independent practice).</li> <li>Use or develop practice activities that help students generalize learned words and patterns into writing.</li> <li>Identify helpful apps and other technology that support practice or that would be appropriate for accommodations and modifications.</li> </ul>
<p>4G.4 Know/apply in practice considerations for the developmental phases of the writing process.</p>	<ul style="list-style-type: none"> <li>Identify the specific subskills of each phase of the writing process so each can be explicitly taught (e.g., planning involves selecting a format, having ideas, and having a goal; drafting requires transcription skill and text/word generation; reviewing requires facility with word choice, sentence editing, mechanics, audience awareness, and so forth).</li> <li>Identify research-based instructional practices to support planning, drafting, and revision.</li> </ul>	<ul style="list-style-type: none"> <li>Devote sufficient instructional time to planning, including definition of the goal and expectations, brainstorming of ideas, and anticipation of text format, length, and style.</li> <li>Support transcription with written notes, word banks, graphic organizers, and talking.</li> <li>Support editing and revision with personal or group conferencing, proofreading checklists, and peer-to-peer collaboration.</li> <li>Build a student writing folder and publish selected works in displays or collections.</li> </ul>

46.5 Know/apply in practice considerations for the appropriate use of assistive technology in written expression.	<ul style="list-style-type: none"> <li>• Provide examples of specific assistive technology (types of devices/programs) appropriate to students with varying written expression needs (e.g., poor spelling vs. difficulties with organization/composition).</li> <li>• Critically evaluate specific assistive technology devices/programs and their utility for a specific student.</li> </ul>	<ul style="list-style-type: none"> <li>• Select and provide access to keyboarding and word-processing instruction as appropriate.</li> <li>• Implement assistive technology for writing; make adjustments depending on individual students' needs.</li> </ul>
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STANDARD 5: PROFESSIONAL DISPOSITIONS AND PRACTICES		
5.1	Strive to do no harm, maintain confidentiality, and act in the best interest of struggling readers and readers with dyslexia and other reading disorders.	
5.2	Maintain the public trust by providing accurate information about currently accepted and scientifically supported best practices in the field.	
5.3	Avoid misrepresentation of the efficacy of educational or other treatments or the proof for or against those treatments.	
5.4	Respect objectivity by reporting assessment and treatment results accurately, and truthfully.	
5.5	Avoid making unfounded claims of any kind regarding the training, experience, credentials, affiliations, and degrees of those providing services.	
5.6	Respect the training requirements of established credentialing and accreditation organizations supported by CERI and IDA.	
5.7	Avoid conflicts of interest when possible and acknowledge conflicts of interest when they occur.	
5.8	Support just treatment of individuals with dyslexia and related learning difficulties.	
5.9	Respect confidentiality of students or clients.	
5.10	Respect the intellectual property of others.	

## SUPPORTING EVIDENCE AND REFERENCES<sup>1</sup>

### STANDARD 1: Foundations of Literacy Acquisition

An extensive research base exists on the abilities that are important in learning to read and write, including how these abilities interact, how they are influenced by experience and instruction, and how the relative importance of various abilities tends to shift across development. Even before formal literacy instruction begins, certain risk indicators, such as poor phonological sensitivity or a history of early language delay, can predict which children are likely to require especially close monitoring and intervention. Moreover, evidence suggests that certain educational practices, such as universal screening, evidence-based general education instruction, and prompt intervention, can prevent or ameliorate many literacy problems. For both general and special educators, knowledge of this research base on literacy development and literacy difficulties forms an essential foundation for the competencies and skills described in subsequent sections of this document.

In addition, familiarity with the systems of language is required to implement Structured Literacy instruction. Formal knowledge about language structures—recognizing, for example, whether words are phonetically regular or irregular; common morphemes in words; common sentence structures in English; and how different types of texts are organized—enables teachers to interpret assessments, present lesson concepts clearly, select appropriate examples of concepts, and provide corrective feedback to students. Teachers’ understanding of language structure is essential to providing effective instruction in writing and reading. Research suggests that acquiring an understanding of language structure often requires explicit teaching of this information and more than superficial coverage in teacher preparation and professional development.

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<sup>1</sup> This reference list is neither comprehensive nor exhaustive. References are offered as examples of the literature supporting the rationale for and the validity of each standard. Many other sources could be referenced in courses and texts aligned with this document.



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## STANDARD 2: Knowledge of Diverse Reading Profiles, Including Dyslexia

A well-prepared teacher will expect that students' reading, writing, and language profiles will vary and that a single approach to instruction is unlikely to match the needs of all students. Some students will learn readily and will benefit from more emphasis on centers and independent reading. Some students will have specific problems learning phonemic awareness, phonics, spelling, and decoding, whereas other students may be relatively strong at using phonics but relatively weak in vocabulary, language comprehension, or the text generation aspects of writing. Still others may have a specific and pronounced problem developing automatic recognition of words and may be very slow readers. These subgroups can be supported with small-group instruction delivered under an RTI (MTSS) framework that bolsters their weaker skill areas.

To identify children with dyslexia and other learning disabilities, teachers must understand and recognize the key symptoms of these disorders and how the disorders differ. To plan instruction and detect older students with learning disabilities who may have been overlooked in the early grades, teachers should also understand how students' difficulties may change over time, based on developmental patterns, experience, and instruction, along with increases in expectations across grades.

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### STANDARD 3: Assessment

Teachers' ability to administer and interpret assessments accurately is essential both to the early identification of students' learning problems and to planning effective instruction. Appropriate assessments enable teachers to recognize early signs that a child may be at risk for dyslexia or other learning disabilities, and the assessments permit teachers to target instruction to meet individual students' needs. Teachers should understand that there are different types of assessments for different purposes (e.g., brief but frequent assessments to monitor progress versus more lengthy, comprehensive assessments to provide detailed diagnostic information) and be able to recognize which type of assessment is called for in a particular situation. Teachers need to know where to find unbiased information about the adequacy of published tests; to interpret this information correctly, they require an understanding of basic principles of test construction and concepts such as reliability and validity. They should also understand how an individual student's component profile may influence his or her performance on a particular test, especially on broad measures of reading comprehension and written expression. For example, a child with very slow reading is likely to perform better on an untimed measure of reading comprehension than on a stringently timed measure; a child with writing problems may perform especially poorly on a reading comprehension test that requires lengthy written responses to open-ended questions. In addition, to implement assessments effectively within an RTI (MTSS) framework, educators must understand certain issues involved in screening and progress monitoring large groups of students. These issues include the value of two-stage screening, appropriate selection and interpretation of progress-monitoring assessments, and signs that a student should be referred for comprehensive evaluation for special education (e.g., early language delay or family history of dyslexia, in a student who is not showing a robust response to intervention). Because fluency is a useful predictor of overall reading competence, especially in elementary-aged students, a variety of fluency tasks have been developed for use in screening and progress monitoring, most notably in CBMs. General and special educators should know how CBMs differ from other types of curriculum-based assessments (e.g., they are quick-timed probes that correlate well with overall competence in a domain), and they should recognize the features that make CBMs particularly useful in screening and progress monitoring (e.g., they come in multiple equivalent forms and are sensitive to incremental progress).

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#### **STANDARD 4, Substandard A: Essential Principles and Practices of Structured Literacy Instruction**

Structured Literacy teaching can be contrasted with meaning-emphasis, child-centered, incidental instruction in which foundational skills are generally not emphasized, even for children at the earliest stages of learning to read and write. Structured Literacy involves teaching language concepts in an explicit, systematic, cumulative manner, according to a planned scope and sequence of skill development. Structured Literacy approaches emphasize direct interaction with a teacher who provides clear explanations and modeling of new skills and concepts; prompt, unambiguous, corrective feedback to errors; and application of decoding skills in texts that lend themselves to decoding, rather than texts containing many words that beginners will be unable to decode. In these approaches, spelling instruction is well coordinated with decoding instruction, and higher levels of literacy—such as syntax, paragraph organization, and discourse structure—are also taught systematically. In contrast, most approaches to teaching literacy that are commonly used in schools lack these features. Structured Literacy approaches are especially valuable for students with reading disabilities such as dyslexia; however, many other children can also benefit from these approaches, including ELs and children at risk in reading due to limited experiences with literacy and academic language.

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#### **STANDARD 4, Substandard B: Structured Literacy Instruction—Phonological Awareness, Phonological Sensitivity, Phonemic Awareness**

Phonological sensitivity (awareness of rhyme, alliteration, syllables, and larger chunks of words) and phonemic awareness are essential foundations for reading and writing. All children benefit from explicit teaching of consonant and vowel phonemes apart from, but connected to, the letters that represent them. Without early, research-based intervention, children who struggle with speech-sound awareness are likely to have difficulty learning to use phonics for decoding, remembering the pronunciation of words (especially when they sound similar), and spelling. Furthermore, poor phonological awareness is a core weakness in dyslexia. Ample research exists to inform the teaching of phonological awareness, including research on the phonological skills to emphasize in instruction, appropriate sequencing of instruction, methods to help students identify phonemes, such as the use of articulatory cues, and integrating instruction in phonological awareness with instruction in alphabet knowledge. Educators who understand how to teach these foundational skills effectively can prevent or ameliorate many children’s reading problems, including those of students with dyslexia.

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#### **STANDARD 4, Substandard C: Structured Literacy Instruction—Phonics and Word Recognition**

The development of accurate word-decoding skills is an essential foundation for reading fluency and reading comprehension in all students. Word decoding is the ability to read unfamiliar words by applying knowledge of sounds for letters, letter patterns (e.g., *sh, igh, ar*), and the alphabetic code. At more advanced stages of word reading, decoding also requires knowledge of syllabication strategies (e.g., dividing between two consonants in a word with a VCCV pattern, such as *lantern*) and the ability to recognize common morphemes in words (e.g., *un-, mis-, -ed, -ing, -able*). These kinds of skills are often a central weakness for students with poor reading, including those with dyslexia. The ability of both general and special educators to provide explicit, systematic, appropriately sequenced instruction in decoding is indispensable to meet the needs of students with dyslexia and to help prevent reading problems in other at-risk children and beginning readers in general. Educators should know that recent, post-NRP evidence favors synthetic, parts-to-whole approaches to decoding over inductive, whole-word approaches (e.g., word families). They should also recognize the importance of students' opportunities to apply their developing decoding skills in reading connected text, including oral reading with feedback from a teacher. Teacher feedback should emphasize attention to the print and application of decoding skills rather than guessing at words based on pictures or sentence context. Finally, teachers should understand the usefulness of multisensory, multimodal techniques in focusing students' attention on printed words, engaging students, and enhancing memory.

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#### **STANDARD 4, Substandard D: Structured Literacy Instruction—Automatic, Fluent Reading of Text**

Reading fluency is the ability to read text effortlessly, quickly, and accurately. Good reading fluency is also characterized by appropriate prosody (e.g., intonation and phrasing) in oral reading. Fluency develops among typical readers in the primary grades and is important because lack of fluency tends to drain students' reading comprehension and motivation to read; poor fluency also makes it difficult for students to keep up with increasing demands for reading volume in the middle and secondary grades. Problems with reading fluency is a very common symptom of dyslexia and other reading disabilities, and these problems can linger even when students' accuracy in word decoding has been improved through effective phonics intervention. Although fluency difficulties may sometimes be associated with processing weaknesses, considerable research supports the role of practice, wide exposure to printed words, and focused instruction in the development and remediation of fluency. To address students' fluency needs, teachers must have a range of competencies, including the ability to interpret fluency-based measures appropriately, place students in appropriate types and levels of texts for reading instruction, stimulate students' independent reading, and provide systematic fluency interventions for students who require them. Teachers should also recognize when a student's fluency difficulties relate to language comprehension factors rather than to decoding, as when a student decodes individual words accurately and automatically but reads text slowly because he or she is struggling to understand meaning. Assistive technology (e.g., text-to-speech software) is often employed to help students with serious fluency difficulties function in general education settings. Therefore, teachers, and particularly specialists, require knowledge about the appropriate uses of this technology.

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#### STANDARD 4, Substandard E: Structured Literacy Instruction—Vocabulary

Vocabulary, or knowledge of word meanings, plays a key role in reading comprehension. Knowledge of words is multifaceted, ranging from partial recognition of the meaning of a word to deep knowledge and the ability to use the word effectively in speech or writing. Research supports both explicit, systematic teaching of word meanings and indirect methods of instruction, such as those involving inferring meanings of words from sentence context or from morphology (e.g., word parts, such as common roots and affixes). Teachers should understand the importance of vocabulary to overall reading comprehension, and they should recognize populations of children who are especially likely to be at risk in the area of vocabulary, such as ELs and children with limited exposure to literacy at home. Both general and special educators should know how to develop students' vocabulary knowledge through direct and indirect methods. They should also recognize the importance of a wide exposure to words, both orally and through reading, in students' vocabulary development. For example, although oral vocabulary knowledge frequently is a strength for students with dyslexia, over time, a low volume of reading may tend to reduce these students' exposure to rich vocabulary relative to their typical peers; explicit teaching of word meanings and encouragement of wide independent reading in appropriate texts are two ways to help increase this exposure.

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#### **STANDARD 4, Substandard F: Structured Literacy Instruction—Listening and Reading Comprehension**

Good reading comprehension is the ultimate goal of reading instruction. Reading comprehension depends not only upon the component abilities discussed in previous sections, but also upon other factors, such as background knowledge, comprehension of syntax, and knowledge of text structure. To plan effective instruction and intervention in reading comprehension, teachers must understand the array of abilities that contribute to reading comprehension and use assessments to help pinpoint students' weaknesses. For instance, a typical student with dyslexia, whose reading comprehension problems are associated mainly with poor decoding and dysfluent reading, will need different emphases in intervention than will a student with poor comprehension whose problems revolve around broad weaknesses in vocabulary and oral comprehension. In addition, teachers must be able to model and teach research-based comprehension strategies, such as summarization and the use of graphic organizers, and use methods that promote reflective reading and engagement. Oral comprehension and reading comprehension have a reciprocal relationship; good oral comprehension facilitates reading comprehension, but wide reading also contributes to the development of oral comprehension, especially in older students. Teachers should understand the relationships among oral language, reading comprehension, and written expression, and they should be able to use appropriate writing activities to build students' comprehension. They should also recognize the importance of including oral interventions (and reading interventions) in helping students who have difficulties with comprehension.

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#### **STANDARD 4, Substandard G: Structured Literacy Instruction—Written Expression**

Just as teachers need to understand the component abilities that contribute to reading comprehension, they also need a componential view of written expression. Important component abilities in writing include basic writing (transcription) skills, such as handwriting, keyboarding, spelling, capitalization, punctuation, and grammatical sentence structure; text generation (composition) processes that involve translating ideas into language, such as appropriate word choice, writing clear sentences, and developing an idea across multiple sentences and paragraphs; and planning, revision, and editing processes. Teachers should understand how, similar to the relationship between reading fluency and reading comprehension, weaknesses in basic writing skills, such as spelling and handwriting, may drain students' abilities and motivation to write. Also, just as in the case of reading, explicit and systematic teaching of important components of writing as part of general education instruction can help prevent or ameliorate many children's writing difficulties. Effective intervention in written expression depends on pinpointing an individual student's specific weaknesses in different component areas of writing and on teachers' abilities to provide explicit, systematic teaching in each area. For instance, a student whose writing difficulties revolve around basic writing skills, such as spelling, will require a different type of intervention than one who has strong foundational writing skills but struggles with text generation processes, such as clarity and word choice. In addition to using assessments to help target individual students' writing weaknesses, both general and special educators should be able to teach research-based strategies in written expression, such as those involving strategies for planning and revising compositions, and they should understand the utility of multisensory methods in both handwriting and spelling instruction. Assistive technology can be especially helpful for students with writing difficulties, especially as they advance into the middle and upper grades and the demands for writing escalate. Teachers should also recognize the appropriate uses of technology in writing (e.g., spell-checkers can be valuable, but do not replace spelling instruction and have limited utility for students whose misspellings are not recognizable). Specialists should have even greater levels of knowledge about technology.

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