

Developing Understandings of Deaf Students' Learning in Mainstream Secondary Classrooms: Teaching Assistants' Perspectives

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Submitted in accordance with the requirements for the degree of
Doctor of Philosophy

The University of Leeds
School of Education

June, 2015

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Acknowledgments

Dedicated to Dad, Dr W. J. M. Salter (1937- 2013)

I would like to thank my supervisors Dr Susan Pearson and Dr Ruth Swanwick for their sage advice, tricky questions and tremendous support. I particularly wish to thank Ruth for her encouragement in embarking on this project. I am delighted to have been made welcome within The School of Education as part of the research community.

I am very grateful to my family for their support and encouragement throughout this endeavour and especially my husband Chris who took on more than his fair share of responsibility for our family, enabling me to hide in the office and work. I would to thank Katie Gathercole and Helen Wilson for their contributions.

Finally I am indebted to the teaching assistants, teachers, teachers of the deaf and pupils who willingly gave me access to their lives and thoughts. Without these the research would not have been possible.

Abstract

This study investigates teaching assistants' (TA) perspectives of deaf students' learning experiences within mainstream secondary schools. The majority of deaf students are educated within such settings and they underachieve in all curriculum areas when compared with their hearing peers. The investigation adopts a holistic perspective of learning originally developed in the field of adult education.

A collaborate methodology was developed to facilitate a trustworthy realisation of TAs' perspectives. Six TAs were recruited to the Data Group and four to the Reference Group; both were engaged in a three stage iterative, qualitative research process comprising focus group meetings and individual interviews. A third group, the Reference Group, consisted of seven deaf students; five mainstream teachers and three teachers of the deaf who provided validation of the Data Group TAs' working context through individual interviews.

Consideration was given to how the TAs talked about learning and the challenges they perceived the deaf students encountered in the classroom. The TAs described a range of issues related to deaf students' knowledge acquisition, skills and mental state along with environmental factors they perceived impacted on the students' learning experiences. The findings indicated that deaf students may be engaged in a significant amount of accommodative learning in classrooms designed to support assimilative learning.

The TAs identified that their own presence in the classroom impacts on the nature of the social situation and potentially creates a barrier between the deaf student and the mainstream teacher. They considered that mainstream teachers' lack of understanding regarding the impact of deafness significantly affected the students' learning experiences. They also indicated that the manner in which members of the classroom environment responded to the deaf student may be problematic. Suggestions are made for future investigations and a new model for the deployment of TAs to support deaf students is proposed.

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Chapter 1

Introduction

The aim of this investigation is to develop an understanding of deaf students' learning experiences in a mainstream secondary classroom from teaching assistants' perspectives; the learning experience being a consequence of the social situation in which the child learns. This has grown out of my experiences as a parent of two deaf children, a mainstream teacher and as a teacher of the deaf.

My involvement within the field of deaf education began with the birth of my twin daughters both of whom were diagnosed with congenital deafness. It seemed a natural progression, following many years as a mainstream primary teacher, to train as a teacher of the deaf and so ensure I was able to engage fully in my daughters' education and understand the rationale behind different approaches. I subsequently worked in a variety of settings; in a mainstream resource base where the primary mode of communication was through sign language; a mainstream resource base where the primary mode of communication was spoken English and as a peripatetic teacher supporting deaf pupils within mainstream settings. Many of the deaf students with whom I worked were supported by one or more teaching assistants.

In 2008 I joined a voluntary sector organisation and was responsible for managing and in part delivering a programme of continued professional development courses for teachers of the deaf; teaching assistants and other professionals working with deaf children. I also provided educational advice to the National Deaf Children's Society (NDCS). This role gave me a broader view on educational provision for deaf children than I had through my own teaching and parenting experience. It became increasingly apparent that teaching assistants provided a significant amount of the support for deaf children in schools and that there was huge variation in the training provision for these practitioners. This was particularly evident within mainstream settings. I became concerned about the potential impact this might have on deaf students' learning potential within this environment. My interest in understanding how deaf children learn within the mainstream classroom grew including understanding the challenges they face; the manner in which

teaching assistants support them and what factors influence teaching assistant practice. For many deaf pupils their relationship with the teaching assistant constitutes a significant part of their educational experience and consequently will almost certainly contribute to their ultimate achievements and outcomes.

Together these experiences provided me with different perspectives on the education of deaf children. As a parent I was developing an understanding of the way deafness shapes a child's life and experiences. The diverse nature of my daughters' hearing losses provided me with an experience that revealed the multiplicity of ways in which deafness may influence a child's interaction with their environment. This recognition of the all-pervasive nature of deafness on a child's understanding of the world is central to my theoretical perspective of deafness. Within educational settings I was developing an understanding of the way deafness shapes a child's educational experience in the classroom. This not only included the attributes and experiences a deaf child brings with them but was also shaped by the practitioners and their understandings of the deaf child's needs.

Within the field of deaf education, policy and practice has centred on language based ideologies and in particular the communication mode perceived to be most beneficial for deaf children's learning: spoken, signed or a combination of the two. There has been research examining how deafness influences the development of cognitive, social and emotional skills although there was little evidence within my own experience that such research was influencing practice in mainstream settings. The focus on language has influenced mainstream practice and consequently there appears to be a perception that if the deaf child has functional language skills and is able to hear what is being said, or can access the speech through an interpreter, then they will be able to learn in the same way as their hearing peers (Swanwick and Marschark, 2010). Yet as a parent it was clear that deafness affected not only language and communication but every other aspect of the child's life experiences. The all-pervasive influence of deafness is central to this thesis.

The following chapter will begin by stating the research aims and questions (1.1). This will be followed by definitions of three key terms: *deaf*, *teaching assistant* and *student* and how these are applied within this study (1.2). An initial explanation will be given as to the importance of this investigation for

deaf students and teaching assistants (1.3) followed by a summary of the significance of the research (1.4). An outline of the methodology (1.5) will precede an overview of the structure of the thesis.

1.1 Research aims and questions

The aim of this investigation is to develop an understanding of deaf students' learning experiences in a mainstream secondary classroom from the teaching assistants' perspectives. My original research proposal was to critique the role of the teaching assistants working with deaf students in mainstream secondary schools from the teaching assistants' perspectives. From this critique I anticipated developing guidance that would ensure more effective teaching assistant practice when supporting deaf students.

As my understanding developed of how to approach this study as a researcher rather than a practitioner I recognised the need to address my underlying perspective of the ubiquitous nature of deafness. I needed to articulate this to ensure there was a clear account of the perspective from which I would reflect on the manner in which deafness influences a student's learning experience in the classroom. I needed to consider how this theoretical approach might be articulated and how it aligned with other models of learning. This philosophical adjustment required me to reflect on the nature of learning itself. I also needed to develop a methodology that resulted in data that would reflect the range of challenges deaf students encountered whilst learning in the mainstream classroom. This process was formative in this research and is therefore evident in the thesis.

The following research questions and sub questions were developed to address my aim to develop an understanding of deaf students' learning experiences in a mainstream secondary classroom from the teaching assistants' perspectives.

RQ1 How can the teaching assistants' perspectives be realised?

RQ1i: How might the data generated reflect the complexity of the classroom learning environment?

RQ1ii: What method will facilitate the dynamic realisation of teaching assistants' perspectives of deaf students' learning experiences?

RQ1iii: What impact does teaching assistants' involvement in researching their own practices have on their understanding of learning?

RQ1iv: How might the integrity of the teaching assistants' perspectives be sustained?

RQ1v: How do teaching assistants' perspectives of their working environment compare with that of the other educational professionals and deaf students within the same context?

RQ2: What language and terminology do teaching assistants use to talk about learning?

RQ2i: What might be deduced about teaching assistants' understanding of learning in the classroom?

RQ3: What challenges do deaf students experience within mainstream secondary classrooms from the teaching assistants' perspectives?

RQ3i: What do these challenges reveal regarding the learning experiences of deaf students within the mainstream secondary classroom?

1.2 Terminology

The following three terms are used extensively throughout this thesis:

1.2.1 Deafness

The use of terminology within the field of deafness differs between countries and cultural groups. Within this thesis the term *deaf* will be used to describe all levels of deafness that impact on a person's ability to access spoken language, including in noisy environments as adopted by NDCS (2015) and the British Association of Teachers of the Deaf (BATOD)(2015). Within the UK the term hearing loss has been adopted in some educational settings to distinguish it from the cultural group of "Deaf" with a capital "D" that refers to deaf individuals whose main communication mode is through sign language and who associate with the Deaf Community. This term is used by some of the research participants.

A glossary is provided incorporating terminology associated with deafness.

1.2.2 Teaching assistant (TA)

As the teaching assistant role has developed within different educational provisions, it has attracted a variety of titles that have endeavoured to capture the nature of the role being undertaken. This has included Learning Support Assistant, Educational Care Officer and for those that have

undertaken specific training Higher Level Teaching Assistant. Within the field of sensory impairment individuals trained to support the learning of multisensory impaired pupils, deaf-blind, are known as Interveners and those with British Sign Language (BSL) skills Communication Support Workers. Within this thesis the term *teaching assistant* is used in a generic way to refer to educational practitioners, excluding teachers, who support learning and teaching in the classroom.

1.2.3 Student

Within the UK secondary school pupils from the age of 11 years are frequently referred to as students with this term applying through further and higher education provision. Throughout the thesis the term *student* will be used to refer to the young deaf participants. This convention is not universal within the literature which utilises a variety of terms including pupils, adolescents, young people and learners. When research is cited, in order to remain true to the original work the term used by the authors will be retained.

1.3 Deaf students and teaching assistants

In 2014 there were reported to be 48,125 deaf children in the United Kingdom (UK) (CRIDE, 2014) and in 2013 that 84% were being educated within mainstream settings (CRIDE, 2013). Despite considerable technological advances in the detection and audiological management of deafness combined with a developing, extensive body of research into the impact of deafness on children, deaf students continue to underachieve in comparison with their hearing peers. The potential for deaf children to develop spoken language has never been better (Archbold, 2010) and therefore their potential to achieve in line with their hearing peers should reflect this. In 2013 just 37.7% of UK deaf students, identified as requiring additional support within their school setting, gained the expected level of academic qualifications for 16 year olds, in contrast to 58.8% of the general school population (Department for Education, 2013b).

Recent research into deaf children's learning indicates:

...that subtle and not so subtle differences exist in the cognitive foundations of learning among deaf learners and between deaf and hearing learners.

(Marschark and Hauser 2008, p.454).

This growing understanding with a wide body of supporting evidence does not appear to be facilitating improved outcomes, rather outcomes are becoming more diverse,(Leigh, 2008). With the majority of deaf pupils being educated within mainstream settings there is still significant work to be done to inform practice and to ensure that those teaching and supporting deaf pupils have access to the knowledge and understanding of how they will learn most effectively (Marschark and Hauser, 2008). Within the UK those deaf students identified as requiring additional support are likely to receive support from a teacher of the deaf and a significant amount of that support from a teaching assistant (Webster et al., 2010).

The potential benefit of teaching assistant support for all students has recently come under great scrutiny (Alborz et al., 2009); (Fraser and Meadows, 2008, Butt and Lance, 2009, McKenzie, 2009, McKenzie, 2010, Edmund, 2010). In particular research indicates teaching assistant support may be detrimental to pupils' academic outcomes particularly those with Special Educational Needs (SEN). One report from the Deployment and Impact of Support Staff (DISS) project, that collected data across both primary and secondary schools, stated that

... there was a consistent negative relationship between staff ratings of the amount of support a pupil received and the progress they made in English and mathematics (...). The more support pupils received, the less progress they made...

(Blatchford et al., 2009, p34)

Much of the research into teaching assistant practice has been based within primary settings, yet the nature of the role will be influenced by the educational context. For example, supporting a deaf pupil within nursery requires a very different set of skills to supporting a deaf student undertaking A-levels within a sixth form. There has also been limited research into teaching assistants' support for deaf students (Jarvis, 2003a). Within a secondary setting a teaching assistant frequently spends significantly more time with an individual student than does the mainstream teacher. Consequently teaching assistants may have a body of knowledge, based on their interaction with and observations of the deaf students, which could potentially inform our understanding of the student's learning experience within the classroom and provide insight into ways to develop teaching assistant practice.

1.4 Significance of the research

This study is significant within three areas: understanding the learning experiences of deaf students within mainstream secondary settings; methodological developments and the investigation of teaching assistant practice:

1. A theoretical approach is developed that provides a holistic perspective of deaf students' learning. It brings together the internal process and external influences on learning within the specific learning environment of the mainstream secondary classroom. A theoretical framework is proposed and developed throughout the study.
2. A methodology is developed that enables the teaching assistants' perspectives to be presented in a trustworthy way. This facilitates the consideration of their specific knowledge and understanding of deaf students' learning experiences within the mainstream setting.
3. The research investigates teaching assistants supporting students within mainstream secondary settings and working with a specific group of students with Special Educational Needs (SEN). To date the majority of teaching assistant research has been within primary settings and considered support practices from a generic perspective. This study aims to begin to redress that balance.

1.5 Methodological approach

A qualitative, collaborate methodology was developed that facilitated a trustworthy method to collect data that accurately represented the teaching assistants' perspectives. The resulting data generation process involved a three stage iterative research cycle that engaged three different groups of participants, the Data; Consultancy and Reference Groups, in a combination of focus group discussions, one to one interviews and a feedback questionnaire. The Data and Consultancy groups comprised respectively six and four teaching assistants who supported deaf students in mainstream secondary schools. The Reference group consisted of deaf students, mainstream teachers and teachers of the deaf who worked with the teaching assistants in the Data Group.

1.6 Thesis outline

Chapter two presents the current context of the education of deaf students in mainstream secondary schools including recent changes. It highlights the need for further research; for the involvement of teaching assistants within that research and the need to investigate deaf students learning experiences in mainstream secondary classrooms. This forms the rationale for RQ1.

Chapter three considers perspectives of learning and develops a holistic perspective of learning on which the study is constructed. Chapter four examines the literature pertaining to deaf students' learning in a mainstream secondary school from a holistic approach, leading to the development of RQ2 and RQ3

Chapter five describes the development of the research design including the analytical process.

The resulting data is complex and the research questions require a layered approach to the findings and discussions. Consequently the following Chapters six and seven present the findings in respect of the research cycles and RQ2 respectively and Chapter eight discusses these findings. Chapter nine presents the findings in respect of RQ3 followed by discussion in respect of the deaf student in Chapter 10 and in respect of the mainstream classroom situation in Chapter 11. Graphic organisers are used throughout the thesis to support navigation within it particularly with regards to the findings and discussion chapters.

Chapter 12 concludes the thesis.

Chapter 2

Deaf Students: The Current Context

2.1 Introduction

The following chapter will present the numbers and current academic outcomes of deaf students in England and the UK in order to establish why it is important to research deaf students' learning. Deafness is classified as a low incidence disability; that is a disability which has the potential to adversely affect learning and is unlikely to be familiar to mainstream educational professions. See Appendix A for the full definition. In 2014 there were reported to be 48,125 deaf students attending schools across the UK (CRIDE, 2014) so whilst defined as low incidence it affects a significant number of students.

The chapter will begin by discussing the demographics of the deaf student population (2.2) then briefly consider how provision for deaf students has changed in the last 20 years and the potential implication of these changes (2.3). The current academic outcomes for deaf students will then be presented with reference to government policies and societal expectations of the education system (2.4). This will provide the background for the frequent allocation of additional support to deaf students within mainstream schools.

The final section in the chapter will examine the nature of the support deaf students receive from both a teacher of the deaf (2.5.) and teaching assistants (2.6). Recent research into the role of the teaching assistant, that questions the effectiveness of their practice, will be presented and the implication of the findings for deaf students will be considered (2.7). The chapter will conclude by summarising the rationale for this investigation to be situated within secondary schools with teaching assistants engaged centrally within the research process.

2.2 The deaf student population

This study commenced in October 2011 prior to recent changes in the guidance for SEN provision and I will therefore refer to the SEN Code of

practice (Department for Education and Science, 2001) that was guiding support practices at that time. The new guidance SEN and Disability Code of Practice (Department for Education and Department for Health, 2014) does not provide detail regarding the nature of the support individual pupils might receive rather it provides a clear and detailed strategic approach to the identification and management of students with SEN. This study therefore remains relevant to deaf students' learning experiences in mainstream classrooms

As this study commenced, the majority of severely and profoundly deaf pupils, (see glossary for explanation of categories of hearing loss) could be identified within government statistics only if their educational needs were being met with the support of specialist services. Different authorities applied the classification criteria for support in an idiosyncratic manner and, therefore, government statistics did not provide an accurate record of the number of deaf students in UK schools. Indeed whilst the majority of severely and profoundly deaf pupils may have been represented many children with unilateral (one sided), mild, moderate and temporary hearing loss were not as they are less likely to have been identified as requiring support from specialist services. The Consortium for Research in Deaf Education (CRIDE) has endeavoured to establish a more accurate picture; for the school year 2012-2013 CRIDE identified 41,464 deaf children within the UK, 37,414 in England. The government statistics (Department for Education, 2012) only identified 16,270 children with hearing impairment as their primary need in England, a significant difference. This discrepancy in the figures clearly presents a challenge for monitoring deaf students' outcomes within the English education system. CRIDE (2014), indicated there were 40,614 deaf students in England and 48,125 deaf students across the UK. The increase of approximately 7,000 deaf students in the UK is potentially a consequence of more accurate reporting and whilst deafness is classified as a low incidence disability deafness affects a significant number of students.

There have been many changes for deaf students, within the last thirty years. These changes have altered the nature of their educational experience and it was anticipated they would lead to significantly improved outcomes.

2.3 Changes to the provision for deaf students

The dominant changes in the provision for deaf students' education over the last thirty years include significant technological developments in hearing aid technology and the development of cochlear implants; the recognition and the use of sign language within education and along with other children with Special Educational Needs (SEN), the inclusion agenda.

2.3.1 Technological advancements

The most significant technological development is the cochlear implant, a sophisticated form of hearing technology that works in a fundamentally different way to a hearing aid. It has the potential to enable a profoundly deaf user to access, understand and develop spoken language. The first congenitally deafened child was implanted with a multichannel cochlear implant device in Australia in 1987 (Clarke, 2000) and an immense amount of research has been undertaken regarding the development of the device; outcomes for users in terms of language development, speech perception and speech production (Nikolopoulos et al., 1999, Nikolopoulos et al., 2004, Insoe et al., 2009, Nicholas and Geers, 2013); optimising the benefits (Archbold et al., 2000, O'Donoghue et al., 2000); educational issues such as placement and academic outcomes (Archbold, 2010, McCormick et al., 2003, Beadle et al., 2005); social and emotional development of users (Antia and Kriemeyer, 2003, Percy-Smith et al., 2008, Bat-Chava et al., 2005, Nicholas and Geers, 2003) and the impact on the quality of life on both the individual and their families (Edwards et al., 2012, Schorr et al., 2009, Warner-Czyz et al., 2009). Whilst there are a wide variety of outcomes for individuals, it is clear that cochlear implantation has transformed the lives of many severely and profoundly deaf people in terms of access to spoken language.

Hearing aids have also been transformed within the last two decades with the development of digital technology and can now be programmed to closely match the hearing loss and requirements of an individual (Wood and Lutman, 2004, Kießling and Kreikemeier, 2013, Hickson et al., 2010). The technology produces a much clearer signal than was achievable through the previous analogue aids and consequently digital hearing aids are now standard issue by the National Health Service (NHS). Other developments include hearing devices for deaf people whose hearing loss occurs in the outer ear or as a result of damage to the auditory nerve such as middle ear

and brainstem implants. As with all technology in the current age it transforms and improves at a tremendous pace. Initially, the software was designed to access good speech signals, now the challenge is to provide good access to music and programmes that maximise the user's access to speech in a range of different situations such as in a poor acoustic environment or in the presence of background noise. It is important to note that despite the developments no hearing technology is able to replace normal hearing.

These developments have provided the opportunity for many deaf children to access audition and speech from a very young age, potentially providing the opportunity to develop spoken language which would not have been available to them before.

Many deaf babies are now being identified much younger than they would have been twenty years ago as a consequence of the Newborn Hearing Screening Programme (NHSP). This early diagnosis enables support and audiological management to be available in the first months of life, which is recognised as having a significant impact on the outcomes for these children, particularly to the terms of language development (Watkin and Baldwin, 2011, Young and Tattersall, 2007). By identifying congenitally deaf babies as young as possible it ensures a support structure can be implemented in a timely manner for the child and family that meets their needs. These advances in technology have developed at the same time as significant changes in thinking about how we educate deaf children particularly with regards to language and communication mode.

2.3.2 Approaches to educating deaf children

During the 1980s, a number of factors came together that prompted the wider recognition of the potential role of sign languages in the education of deaf children. Research recognised the natural development of signed languages that are structured by grammar and syntax, as are spoken languages (Brennan et al., 1984, Kyle, 1985). This led to acknowledgement of them as viable languages and raised the profile of their use within the education of deaf children. The 1980s also saw a development in the impact of bilingualism as a strength, rather than a limiting factor, for learning (Cummins, 1979, Cummins, 1977). Together these changes in attitudes presented the possibility of a sign bilingual approach to the education of deaf children whose academic attainment, as a cohort, was poor. Whilst such an

approach was backed by legislation in some countries such as Sweden and Denmark (Mahshie et al., 1995) within the UK it was adopted by schools and authorities who felt that sign language presented an exciting new approach that may provide deaf students with a language and access to the curriculum. However as the use of BSL grew “...*the role of spoken language development became somewhat eclipsed...*” (Swanwick et al.2014,p.296) as sign bilingual policies focussed on the development of text based skills to secure competence in English. This separation within educators’ approaches to language development for deaf children is evident in policy and practice and has created boundaries. It has resulted not in a bilingual approach but rather the use of two separate languages in a way that is inflexible and does not reflect the manner in which deaf children choose to use a combination of spoken and signed languages within their daily lives. This has been reflected within research and the research has not facilitated consideration of the flexible integration of these two languages. It indicates that a new approach is required that looks at deaf children’s learning in different contexts and considers how the different languages might be used flexibly to support their learning.

These specific developments within the field of deaf education occurred within the context of wider policy initiatives that were influencing educational experiences for all children. The development of the inclusion agenda had a significant impact on all educational practice particularly on those children identified as having a disability or learning difficulties including deaf pupils. It has provided a huge drive to ensure these pupils could be educated alongside their peers in mainstream schools through the revision of both policy and practice.

2.3.3 The Inclusion Agenda

As a consequence of The Salamanca Statement of 1994 (United Nations Educational Scientific and Cultural Organisation and Ministry of Education and Science Spain, 1994) and national policies and reports (Great Britain Committee of Enquiry into the Education of Handicapped Children and Young People, 1978, Warnock, 2010, Department for Education and Science, 2001, Department for Education Employment, 1997) the inclusion of children with disabilities into mainstream schools in the UK is well established. However despite the message of equality of provision central to the Salamanca Agreement of 1994 it still presents a challenge to our education system today. Indeed current provision for children with SEN in

England and Wales has recently undergone a radical review which has provided a central and empowering role for the children and their families (Department for Education and Department for Health, 2014). However, the Warnock Report (Great Britain Committee of Enquiry into the Education of Handicapped Children and Young People, 1978) that introduced the notion of Special Educational Needs (SEN) whilst strongly recommending that all children should be educated within mainstream provision identified a number of groups of children for whom this may not be viable including deaf children. She suggested that inclusion may be problematic for them and it would, therefore, be appropriate to maintain specialist schools for the deaf. Many such schools continued to provide for deaf students although these have increasingly disappeared over the last fifteen years. This is in part as a result of deaf children taking advantage of new technologies and their parents choosing for them to attend local mainstream schools. 84% of these pupils (CRIDE, 2013) are now educated in mainstream schools and it is important that teaching and support practices enable them to achieve academically within this environment.

2.4 The emphasis on academic attainment

2.4.1 Government policies and societal expectations

Current educational policies reinforce the expectation that engaging children in formal learning from a very young age, measuring their progress regularly and applying rigour to the pedagogical system will improve their academic outcomes (Department for Education, 2013a, Ofqual, 2014, Department for Education, 2014b, Department for Education and Tether, 2011). Frequent policy changes serve to strengthen this view as they aim to increase attainment and improve rates of progress. This approach however is not without controversy, Pring (2012) for example argues that the current climate leads to the objectification of learners who are being changed for a common purpose rather than allowed to develop as individuals.

There are also frequent reports in the media that highlight this notion of learning. Recently these have focused on the success or otherwise of the English education system based on international league tables (Sedghi et al., 2013, Coughlan, 2013). Ranking is determined by outcomes on, for example, the Programme for International Student Assessment (PISA) which assesses 15 year olds from 65 different countries in three areas of reading,

mathematics and science. The recent outcomes were raised in parliament (Commons Digital Outreach Team, 2013) and have been cited as a reason to reform the current education system. The value of these tests in assessing the quality of an education system has been questioned (Wilby, 2012, Tienken, 2014, Starr, 2014, Dancis, 2014) however they do drive policy. At a national level school league tables in England and Wales are key factors in shaping the nature of education within secondary schools (Nicholl and McLellan, 2008, Perryman et al., 2011). Schools are driven by attainment targets and examination results. This drive becomes evident within classroom practice and may serve to reduce an emphasis on individual success and progress.

2.4.2 SEN Policies

As the focus on attainment has expanded consideration has turned towards students for whom a standardised approach to education may be problematic, that is those identified as having special educational needs (SEN) (Slee et al., 1998, Lunt and Norwich, 1999, Black-Hawkins et al., 2007). Schools have been required to make adjustments to their pedagogical processes for specific children whilst the goals remain the same (Lewis and Norwich, 2005). These adaptations are fundamental to a series of Codes of Practice the most recent of which was brought into effect in September 2014 (Department for Education and Department for Health, 2014) which strives to broaden the approach to the management and education of students with SEN and disability (SEND). Despite recognition of the challenges of the formal educational process ultimate success will still be assessed empirically against a narrow band of academic outcomes that all students are expected to achieve.

The 2001 SEN Code of Practice (Department for Education and Science, 2001) used the terms “access” and “barriers” to learning in order to articulate the philosophy behind the approach and these terms have shaped support practices and continue to be evident. Access is a term used to indicate that appropriate strategies have been implemented to ensure that a student with SEND is able to engage fully with the teaching that is being delivered by removing barriers to learning. The key principles of the most recent version of the document are designed to support a number of factors including “...a focus on inclusive practice and removing barriers to learning” p20 and expectations that “...planning will mean that students with SEN and disabilities will be able to study the full national curriculum.” p94 (Department

for Education and Department for Health, 2014). For deaf learners this has predominantly been interpreted as ensuring the students are able to hear what is being said or for the student to be provided with a British Sign Language Interpretation or some form of visual communication support such as Sign Supported English. There is a significant body of research to support the development and use of audiological equipment such as radio aids (Thibodeau, 2010, Thibodeau, 2014, Schafer et al., 2013), and sound field systems (Iglehart, 2004), as well as the importance of good acoustics (Crandell and Smaldino, 2000, Knecht et al., 2002, Larsen et al., 2008, Gordon-Hickey et al., 2012, Hazrati and Loizou, 2012) within the classroom. Such practical solutions are widely recognised and provide a measurable means to demonstrate that barriers are being removed.

2.4.3 Current academic attainment of deaf students

It is important to note that some deaf children do succeed in line with their hearing peers within mainstream settings, as they do within special school provision; however as a cohort they are consistently failing to achieve the same academic levels as the general population. The summary below (Table 2-1), of Government data collected in the academic year 2012-2013 (Department for Education, 2013b) outlines current academic performance for students identified as deaf because they require additional support, at the end of key Stage 4, (age 16) in England. Deaf students whilst attaining better results than all students identified as having SEN did not perform as well as the general population. This is particularly evident when considering outcomes including the core subjects of English and Mathematics. It is important to note that these statistics do not refer to all deaf children, there are many deaf students who have not been identified and it is not possible to determine their levels of attainment (see 2.2)

General Certificate Secondary Education (GCSE) Results (England) 2012-2013			
% of pupils attaining:	All pupils	Deaf pupils	All pupils with SEN
5+ GCSEs A*-C or equivalent	82.9	73.5	58.6
5+ GCSEs A*-G including English and Mathematics	58.8	35.9	23.4

Table 2-1 GCSE results for deaf students (Department for Education, 2013b)

When considering these statistics it is also important to note that a higher proportion of deaf children have additional needs than within the general population. Within the government statistics discussed above a “Hearing Impaired child” is one for whom deafness is their primarily identified need but it may not be their only difficulty. Fortnum and Davis (1997), identified that 38.7% of the population of children within the Trent region with permanent severe or profound hearing loss had another developmental or clinical problem and approximately half of those had at least two additional difficulties. Whilst this review was undertaken fifteen years ago no other similar study has been carried out more recently. There are however a number of studies that consider the increased prevalence of specific additional challenges such as visual difficulties within the deaf population (Wiley et al., 2011) as well as the increased risk of deafness for children with other primary needs such as cerebral palsy (Reid et al., 2011) and autism (Close et al., 2012). The rise in the number of very pre-term babies surviving will also affect this figure as prematurity raises the chances of deafness and a range of other difficulties. Even accounting for these additional issues the students are all deaf, and the substantial differences in attainment indicate there are significant challenges for deaf pupils within the classroom.

Despite the difficulties in identifying an accurate number of deaf students educated within English schools, data regarding academic outcomes in the UK, USA and other countries provide a consistent picture of low attainment. The academic outcomes for deaf students have been consistently below those for the general population in the subject areas traditionally monitored such as reading (Conrad, 1979, Allen, 1986, Lewis, 1996), mathematics (Allen, 1986, Swanwick et al., 2005, Thoutenhoofd, 2006) and science (Boyd and George, 1973, McIntosh et al., 1994). A recent report from Scotland identified the outcomes for deaf students with a range of different levels of deafness and concludes: *“Deafness across all categories, including mild, moderate and pupils with a cochlear implant has a negative effect on achievement”* (O’Neill R . et al., 2014, p.57)

Within the UK a student who is finding it difficult to learn effectively within a classroom may well be provided with the support from a teacher of the deaf and one or more teaching assistants. The following section will consider this type of support for deaf students.

2.5 Teacher of the deaf

A teacher of the deaf is a fully qualified teacher who has obtained the mandatory qualification that ensures they have the basic understanding of the impact of deafness on a deaf student and the implications for their education. The qualification, a Master's Degree or Post Graduate Diploma, requires two years part time study following a minimum of two years teaching as a fully qualified teacher. The focus of the qualification is to ensure "...*the raised achievement of children and young people who are deaf...*" (National College for Teaching and Leadership, 2014, p4). A teacher of the deaf will be assigned to a child immediately on their diagnosis. The New Born Hearing Screening Programme protocol stipulates that a teacher of the deaf contact the parents of a newly diagnosed deaf child within 24 hours of the diagnosis and many teachers of the deaf will begin their liaison with parents within the first months of a deaf child's life. The importance of the early years for the development of language is universally accepted and consequently there is a large body of research that has investigated the benefits and disadvantages of different approaches to supporting a deaf child and their family to ensure their successful development of language skills. The teacher of the deaf will frequently be the key support worker for a family during these early years (McCracken et al., 2008).

As the deaf child moves into formal educational settings the ToD will transfer the focus of their support from the home into school and work closely with teachers to provide support and advice that will improve the opportunities for the deaf child to make progress alongside their peers. They may work directly with the pupil; act in an advisory capacity for teaching staff and teaching assistants or a combination of both. The latter has become a widely adopted approach with the majority of deaf students now being educated in mainstream settings which has prompted the development of new working practices (Jarvis, 2003b). Antia et al. (2011) undertook a five year longitudinal study of the academic and social outcomes of deaf students educated in mainstream classrooms in the United States of America that included some evaluation of the teacher of the deaf (Antia, in press). Those students who access the curriculum within the mainstream classroom make better progress than those who received tuition from a teacher of the deaf away from the classroom. It is unclear however how these two factors are related as it is possible that those students who work with the teacher of the

deaf may make more progress with the teacher of the deaf than they would in the mainstream classroom. It was also evident that those deaf students who received specialist training such as speech training and study skills, but attended the majority of their tuition in the mainstream classroom, were also high achievers.

There is, however, limited research that has been undertaken in the UK that investigates the transfer of direct support from the family to advisory support for the teaching staff rather than being directly involved in a teaching capacity.

2.6 Teaching assistants

Teaching assistants form approximately 25% of the school workforce (Webster and Blatchford, 2013) and many deaf students will receive support from a teaching assistant. This may be on a formal basis with a teaching assistant specifically allocated to support a single student or on a less formal basis. The latter may be as part of a group activity or ad hoc support when the student is finding the learning challenging.

2.6.1 The number of teaching assistants in schools

The increase in the number of teaching assistants employed in schools was in part as a result of the School Teachers' Review Body (2001) Report which highlighted the need to address teachers' workload. However this corresponded with the increase in the numbers of children with SEN being included into mainstream education. Whilst the original government intention was that some teaching assistants would be employed to teach children directly the outcome is that the teaching assistants predominantly work alongside many students, particularly those identified as having SEN (Blatchford et al., 2011). This support may be part of an intervention strategy or as a specified number of hours of individual support identified within their statement of SEN or as part of a school based decision.

Until the introduction of the SEND Code of Practice (Department for Education and Department for Health, 2014) a student's Statement of SEN frequently stipulated a specific number of hours teaching assistant support, however it rarely provided details of the nature of the support. The actual nature of the support is not stipulated and it is likely that at least some of the decision regarding the nature of the support will be determined by the teaching assistant as they work alongside the pupil during a lesson; whilst

delivering an intervention or when managing the child away from the classroom (Webster and Blatchford, 2013). Webster et al., (2013) suggest that provision in this manner “...appears to get in the way of schools thinking through appropriate pedagogies for pupils with the most pronounced learning difficulties.” p463.

2.6.2 The development of the teaching assistant role

The rapid growth in the number of teaching assistants in a short period of time has had significant implications for the development and conceptualisation of the role which has led to wide variations in practice despite the development of National Occupational Standards (Local Government National Training Organisation, 2001, Training and Development Agency for Schools, 2007). Several large scale reviews of research regarding teaching assistant practice (Howes et al., 2003, Alborz et al., 2009) have identified that students have increased participation in lessons and benefit socially when supported by a teaching assistant, except when the teaching assistant is working exclusively with a pupil. It does not however lead to any significant academic improvement. Teaching assistants may however have a positive impact on student progress when engaged in individual and small group sessions for which they received training and appropriate management support (Alborz et al., 2009, Farrell et al., 2010). Indeed recent studies investigating the implementation of specific interventions by teaching assistants have indicated positive academic benefits (McCartney et al., 2009, Burgoyne et al., 2013, Savage et al., 2009, Fricke et al., 2013). It is important to note however that the majority of research investigating the impact of intervention programmes designed to improve academic performance are based within the primary stage. The majority concern language or literacy development particularly in the early stages. Much less research has been conducted into teaching assistants' practice within secondary educational settings delivering specific intervention programmes.

2.6.3 Training requirements for teaching assistants

Teaching assistants are not required to hold any formal qualifications in respect of their role and many arrive in the classroom with no previous experience (Blatchford et al., 2006). Indeed there is no requirement to hold any academic qualifications and consequently a governing body and head teacher are given the authority to determine the suitability of a candidate for

the role (Department for Education, 2014a). The issue of qualifications is politically sensitive (Graves, 2013, Devecchi et al., 2012), as imposing minimum qualification requirements would potentially lead to demands for pay increases. Russell et al. (2013), recommend that secondary schools would benefit from employing graduates in specific subject areas to work as teaching assistants but teaching assistant pay scales do not reflect a graduate position. Further examination of this issue is beyond the scope of this discussion but it illustrates the potential impact of external political factors on the working practices and expectations of the teaching assistant role.

2.6.4 Government review of teaching assistants

In 2002 the government commissioned the Deployment and Impact of Support Staff (DISS) project to review the impact of support staff in both primary and secondary schools. It was an extensive study, conducted over a five year period and has challenged the employment of teaching assistants in any pedagogical role particularly for children with special educational needs:

...TA support has a negative impact on pupils' academic progress especially pupils with SEN. The findings render the current system of support for SEN highly questionable... and whether TAs should have a pedagogical role

(Blatchford et al., 2011, p.136)

This statement however is based on “...*simple classification of SEN...*” (Blatchford et al., 2011 p.136) and is consequently highly problematic; pupils identified with SEN are not a homogenous group but represent a diverse group of students with multiple learning experiences, skills, abilities and needs. The nature of the support students require will differ significantly depending on the nature of their SEN. It is unclear from the DISS study what is classified as pedagogical support and what is not. Particular concerns were raised regarding the impact of a teaching assistant on a pupil's independence and ability to develop the skills to learn independently (Russell et al., 2013, Radford et al., 2014). The supported pupils were observed frequently seeking “..*validation from the TA.*” (Blatchford, 2012, p.88). This is an issue that is recognised and frequently raised by practitioners.

Investigations also point towards the different nature of the interactions between teaching assistants and pupils in comparison to the interactions

between teachers and pupils as being of prime importance (Rubie-Davies et al., 2010). The study suggested that teachers were concerned with the development of understanding whilst the teaching assistants were concerned with task completion. Teacher assistant responses to questions from the pupils were different with the teachers "... *encouraging thinking and checking understanding ..*" (Rubie-Davies et al., 2010, p443) whilst teaching assistants were more likely to provide pupils with the answers. Teaching assistants were reported to be reactive whilst teachers were proactive with their interactions. Teaching assistants were also found to be more likely to close down a conversation with a pupil rather than to open it up to allow further discussion and the opportunity to develop thinking (Radford et al., 2011). Such studies are an external reflection by the researchers on the conversations. Very little research exists that examines such interactions from an internal viewpoint either that of the teaching assistant, the student, or even the reflection from the mainstream teacher as to why the teaching assistants may be interacting with students in a particular way. Such information may support our understanding of the interactions and role and how to develop it further.

A small number of studies have been undertaken to examine the role of teaching assistants working with specific groups of children with SEND, for example Autistic Spectrum Disorder (Symes and Humphrey, 2011); Visual impairment (McKenzie and Lewis, 2008, Harris, 2011) and supporting deaf children in mainstream schools, including Powers (2001) as part of a wide-ranging review of the support for deaf children in mainstream school and Jarvis (2003a) who considered the role from the pupils' perspectives. There is an urgent need to augment this knowledge to inform potential changes in the deployment of teaching assistants as a consequence of the DISS project subsequent related investigations; The Effective Deployment of Teaching Assistants project (Russell et al., 2013) and The Making a Statement Study (MAST) (Webster and Blatchford, 2013) study, to ensure that they enhance rather than reduce the potential benefits of teaching assistant support for all groups of pupils.

2.7 Placing teaching assistants at the centre of the study

Many deaf students in mainstream schools are supported by teaching assistants for varying amounts of time. Within a secondary school a student may work with as many as six different teachers in a day but be supported

by the same teaching assistant, or a smaller group of teaching assistants, who will engage with them either 1-1 or in small group activities. Consequently a deaf student may spend more time with the teaching assistant than with individual subject based mainstream teachers. The teaching assistant may also provide support for students' audiological equipment and pastoral care away from the classroom. At the heart of the infrastructure in which we educate our children is the interaction between teacher and pupil, (Pring, 2006). Pring argues that teachers should therefore be placed at the centre of research into classroom practice. For students who receive substantial amounts of teaching assistant support, this infrastructure also includes the teaching assistant. The understanding gained from teaching assistants' perspectives may, using the same rationale, provide useful insight into understanding the challenges for students learning within a mainstream setting.

The teaching assistant role has been the focus of a substantial amount of research however only a small number of studies have considered the role from the teaching assistants' perspectives by engaging them in discussion about their own role. Such studies provide descriptive information (O'Brien and Garner, 2001, Sikes et al., 2007) and explore the collaboration between teachers and teaching assistants (Devecchi and Rouse, 2010). Other studies that have sought the views of teaching assistants have involved answering questions designed by the researcher (Giangreco, 2010, Rose and O'Neill, 2009, Abbott et al., 2011). Recently teaching assistants have been engaged more constructively in the research process by assisting in identifying their training needs and evaluating the outcome of a resulting training programme (Butt and Lowe, 2012) and by undertaking research themselves investigating the sensitive topic of teaching assistant status within schools (Watson et al., 2013). The teaching assistants' perspectives, however, remain underrepresented in assisting us to understand the nature of students' classroom experiences. This study aims, in part, to redress this balance. In light of the limited research that might support this investigation the initial research question was established:

RQ1 How can the teaching assistants' perspectives be realised?

In order to ensure that the data truly reflects the teaching assistants' perspectives of the mainstream classroom environment the following principles were identified. These reflect the nature of the classroom environment; the knowledge and understanding of the teaching assistants

and being able to ensure that the teaching assistants' perspectives remain secure during the process of the investigation.

2.7.1 The complex social environment of the classroom

Classrooms are complex social situations in which there are many different interactions occurring at any one time and there are a range of influences that converge on the individuals within it. This investigation aims to consider the learning experiences of deaf students from a holistic approach that endeavours to reveal the nature of the interactions and influences. The first principle identified therefore is to ensure that the teaching assistants are able to reflect on the complexity of the classroom environment. They will need to be able to discuss the range of influences, the nature and impact of the different interactions and, within the remit of the investigation, direct the course of their conversation. This leads to the first sub question:

RQ1i How might the data generated reflect the complexity of the classroom learning environment?

2.7.2 Creating the opportunity to talk openly

The second principle arises from the need to ensure that the teaching assistants are able to discuss the experiences of the deaf students in an open and meaningful manner. There is no guarantee that they have received any formal training in respect of the role or had the opportunity to discuss their working practices in depth with colleagues. They may not have had the opportunity to develop their thinking about learning and educational practice or how it impacts on the students and deaf students. This will need to be taken into account. It will be important to provide the opportunity for the teaching assistants to reflect on and develop their understanding of learning in a dynamic manner that involves discussion with colleagues engaged in a similar capacity. This will therefore be an important principle. The impact of this process on the teaching assistants' understanding of learning will need to be considered when reflecting on their perspectives to ensure a clear context emerges from which to develop an understanding of the deaf students' learning experiences. This principle is therefore reflected in the following two sub questions:

RQ1ii What method will facilitate the realisation of the teaching assistants' perspectives of deaf students' learning experiences?

RQ1iii What impact does teaching assistants' involvement in researching their own practices have on their understanding of learning?

2.7.3 Ensuring the integrity of the teaching assistants' perspectives

The third principle to be identified was ensuring that the teaching assistants' perspectives remain secure and therefore trustworthy throughout the study. Careful consideration was given to how the data would be generated, recorded and interpreted to ensure that the teaching assistants' perspective was retained and not altered or filtered through my perspectives and experiences. This ensured that a new understanding of learning could be developed in a reliable and trustworthy manner and is reflected in the fourth and fifth sub questions that address the principle from the methodological perspective and when triangulating the data:

RQ1iv How might the integrity of the teaching assistants' perspectives be sustained?

RQ1v How do teaching assistants' perspectives of their working environment compare with that of the other educational professionals and deaf students within the same context?

2.8 Researching Secondary classrooms

The nature of the teaching assistant role is widely variable. It is influenced directly by the context in which the teaching assistant is working and the needs of the child or children with whom they are engaging.

Deaf students being educated within secondary schools face a wide range of issues. This is in part due to the structure of the provision in which they may meet six or more teachers a day; need to adapt to the acoustic environment of many different rooms and switch subject regularly. Secondary education also coincides with a period within their life when as adolescents they are coming to terms with their own identity, as are their peers, and social situations become very much more complex and language based than they may have been previously.

Little research to date has investigated the general role of teaching assistant practice within secondary settings or in respect of supporting deaf students. Many deaf students within a mainstream secondary setting will receive support from an individual or small group of teaching assistants. Teaching

assistants are likely to spend a significant amount of time with the pupil and will therefore be able to provide useful insights into the nature of deaf students' learning within a mainstream setting and the nature of their own role in supporting that learning.

2.9 Summary

Deafness is a low incidence disability yet there are a sizable number of deaf students being educated within mainstream schools. Despite the developments in technology and the acceptance of different approaches to the education of deaf children, that include the use of sign languages, these pupils are still not achieving academic standards in line with their hearing peers. Today the majority of deaf students are being educated within mainstream educational settings, frequently supported by a teacher of the deaf and one or more teaching assistants. Changes in teacher of the deaf practice from a direct teaching role to one of advisor for mainstream teachers have received limited research attention. Investigations into teaching assistant practice indicate that the support teaching assistants provide may be more harmful than beneficial in terms of academic attainment particularly for students with statements of SEN. It seems timely therefore to investigate the nature of the role of teaching assistants who support deaf students. It is likely that teaching assistants spend more time with the deaf students than do many mainstream teachers, particularly within secondary schools. Consequently they may possess a body of knowledge regarding the learning experiences of deaf students that could usefully inform deaf educational practices and the wider debate regarding teaching assistant support. The current body of research regarding teaching assistants is dominated by primary practice despite the significant difference in the structure and delivery of education in secondary schools. There is also very little research that seeks the teaching assistants' perspectives, particularly research that allows their agenda to lead the discussions. This provides the rationale for engaging teaching assistants working in secondary schools at the centre of this investigation. This gives rise to the first research question and sub questions:

RQ1 How can the TA perspective be realised?

RQ1i How might the data generated reflect the complexity of the classroom learning environment?

RQ1ii What method will facilitate the realisation of the teaching assistants' perspectives of deaf students' learning experiences?

RQ1iii What impact does teaching assistants' involvement in researching their own practices have on their understanding of learning?

RQ1iv How might the integrity of the teaching assistants' perspectives be sustained?

RQ1v How do teaching assistants' perspectives of their working environment compare with that of the other educational professionals and deaf students within the same context?

Having established the importance of investigating deaf students' learning experiences in mainstream secondary classrooms, from a number of perspectives, and providing the rationale for engaging teaching assistants within the research, the discussion will now consider learning. Learning is a complex process and has been the subject of much research and debate. The following chapter reflects on concepts of learning that align with my underlying perspective of the ubiquitous nature of deafness and its contribution to a deaf student's learning that underpin this study.

Chapter 3

Thinking about Learning

3.1 Introduction

My experiences as a parent and educator of deaf children have shaped my understanding of the influence of deafness on how a child learns not only in school but in every facet of their life. Before progressing any further with my study, I needed to find a concept of learning that would embrace a holistic perspective and support my notion of the ubiquitous nature of deafness. This chapter will explore my development of such a theoretical perspective that brings together these perceptions of deafness and learning from which I subsequently constructed my investigation. Learning is a complex process that has been approached from different perspectives. This includes Piaget's early work (Piaget, 1952) situated within the field of psychology and Vygotsky's seminal work on thought and language (Vygotsky, 1966) which sits within the field of social constructivism. These two approaches have been considered to loosely form either end of a continuum of perspectives on learning (Bruner, 1997). More recently consideration has been given to the development of a theoretical approach that is holistic and able to capture both the psychological and social constructs of learning, particularly in the field of adult learning (Jarvis, 2005, Illeris, 2003).

This chapter will begin by considering learning and how the term is defined within the context of this thesis. Consideration is given to a philosophical approach from which to conceptualise learning; examining the existential perspective articulated by Jarvis (2005) and the manner in which it supports my holistic perception of the impact of deafness on learning (3.2). From this philosophical base consideration is then given to existing theoretical frameworks which may facilitate reflection on the child or learner's psychological learning within both the immediate and wider social environment. Particular consideration is given to Illeris' Complex Learning Model (3.4) as a means of situating and critiquing models of learning. Finally the teaching assistants' experiences of learning about learning is discussed and gives rise to the research question and sub question:

RQ2 What language and terminology do teaching assistants use to talk about learning?

RQ2i What might be deduced about teaching assistants' understanding of learning in the classroom?

3.2 A philosophical perspective to conceptualising learning for a deaf child

Deafness impacts on how an individual acquires information from and interacts with their environment in all aspects of their life. Jarvis' (2006) philosophical approach provides a means to conceptualise the potential impact of deafness. He brings an existential perspective to his theory of learning and it offers a useful approach. Jarvis argues that humans are born into relationships that exist within the wider society, and that “...*learning is the process of being in the world...*” (Jarvis, 2006, p.6) . He describes the process of learning as the consequence of the interaction between the inner self and the outer world, and that to separate the mind and the body when considering the learning process is not logical. If we are physically active, then we are mentally active and the two are not separable,

... in experiencing the world we are both doing something and thinking about it. Experience is a personal awareness of the Other, which occurs at the point of intersection between the inner self and the outer world, and it is through experience as the result of being an agent that we both grow and develop...(Jarvis, 2006, p.4)

It is the nature of this intersection and how the interaction transfers from the outer world to the inner-self that is of particular relevance in the context of this investigation as Jarvis identifies this transfer as occurring through the senses. Humans experience the world, and therefore learn from the world, through their senses including hearing, vision, smell, taste, touch and balance. From these sensations, perceptions develop and so contribute to the individual's life world; that is an individual's perception of the world (Jarvis 2006). It is clear from this perspective that every person's life world will be unique and a child growing up without hearing, or with limited access to auditory information, will experience and perceive a very different life world from a child who has hearing. Deafness will have an impact on their access to and development of spoken language and therefore their interaction with other individuals in their environment. Language was

described by Vygotsky (1986) as a fundamental tool through which learning is mediated. Deafness is also likely to impact on how a child associates sounds with experiences which may be an important element for recalling memories. If a person hears a short sound it may stimulate the concept of a place or a time; a particular memory for example sleigh bells may provoke an image of Christmas; the chink of the cup, the image of a kitchen in which someone is drinking, or a bird singing may lead to an image somewhere outside possibly in a garden, park, or wood. Radio drama relies heavily on a listener being able to generate quick connections between sound and place. Sound may also significantly enhance an experience. This can be illustrated by the creative and financial investment made within the TV and film industry in the production of sound effects and music.

This definition of learning: a holistic process which is a consequence of the interaction between the inner self and the outer world and is a continuous process facilitated by the nature and extent of the information received through the senses, provides a perspective that is able to embrace the impact of deafness on all aspects of an individual's life. It does not however provide a means to examine the nature of the learning within the classroom, the learning experience, and consideration therefore needed to be given to an integrated model that might bring together the different perspectives within the learning literature to use to consider our understanding of deaf students' learning within a mainstream secondary school.

3.3 Models of Learning

In searching for an integrated or holistic model of learning I initially considered the ecological perspective as presented in Bronfenbrenner's Ecological Model of Human development.

3.3.1 Bronfenbrenner's Ecological Model of Human Development

Bronfenbrenner's Ecological Model of Human Development (1979) provides a theoretical framework to view potential influences on human development. It identifies five subsystems through which to consider the potential influences of context and environment on a child's development and to reflect on the environments as contexts of development (Bronfenbrenner, 1979). The individuality of the child is recognised within the model in that each child will bring personal attributes that contribute to the developmental

process. These may be either genetically defined abilities or personal characteristics

... that invite or discourage particular kinds of reactions from the environment that can either disrupt or foster the development of the child. (Sontag, 1996,p. 325)

It recognises the unique contribution of each individual revealing the process by which development occurs within a complex intersection of environments, but it does not provide the means through which to explore why and how the environment and individual attributes might influence the learning processes. Therefore it was not able to provide, a means to examine deaf children's learning within the mainstream classroom and how deafness impacts upon it. The investigation required a means to focus in on the learning within a particular environment in part as a consequence of external factors. Whilst the Ecological Model would help to locate and identify different influential aspects of the child's environment it would not provide the framework to examine how the child and the environment respond to each other and shape the individual's learning within the classroom, the child's learning experience.

Within the field of adult learning the life experiences of the adult is recognised as an important factor that shapes subsequent learning (Jarvis, 2006, Illeris, 2007). The early experiences of deaf children are known to influence their ensuing learning and secondary age students bring at least eleven years of life experience to their learning in the classroom. Therefore consideration was given to Illeris' Complex Learning Model as a potential means of integrating and critiquing different approaches to conceptualising learning within the classroom.

3.3.2 Illeris' Complex Learning Model (CLM)

Illeris' work is seated within the field of lifelong learning which is associated with the adult rather than the very young learner. The scope of his theoretical perspective however incorporates learning within school as well as beyond (Illeris, 2007). It does not specifically address particular ages of learning despite the obvious differences between early childhood and learning in later life. Rather he identifies overarching features that embrace the individual, their experiences and their environment. By focussing on the adult learner he has considered the importance of the experience and knowledge acquired through life that each individual brings to the learning process. From birth, children immediately experience their environment and

begin the process of learning; therefore such experience potentially forms an important aspect of their subsequent learning.

Illeris constructed a framework which would provide an overview of the different theoretical approaches to learning and “...to point out where the different contributions are situated in the field and how they relate to each other..” (Illeris, 2005, p.87). The Complex Learning Model developed from this framework. Central to it is the recognition and unification of two different processes: an internal process and an external process. He also identifies three different aspects or dimensions of learning; Content; Incentive and Interaction (Illeris, 2005). The following two sections will consider Illeris’ classification of the different theoretical approaches to learning within the internal and external process of learning

3.3.2.1 The Internal Process of Learning

Illeris considers the internal process of learning as being fairly consistent in that for each individual learning occurs within the two psychological dimensions Content and Incentive “...because this corresponds to the way in which our brain has developed and functions...” (Illeris , 2007, p97). The Content dimension refers to the knowledge and skills that the individual acquires in a cumulative process that builds on previously learnt skills and knowledge. It represents the understanding and abilities needed to contend with life. The Incentive dimension of learning embraces the motivation, desire and energy that lead to the emotionally receptive state of mind that facilitates the acquisition of the Content. In order to learn effectively there needs to be a “*mental balance*” achieved (Illeris, 2005,p.91). The third dimension of learning Illeris identifies is Interaction. This represents the external interactions of the individual with their environment and includes participation, cooperation and communication with others as well as the influences of societal expectations.

Figure 3-1 provides Illeris’ graphic representation of the internal process and three dimensions of learning. The horizontal line represents the learning acquisition process of the individual, at one end of which is Content and at the other Incentive. Illeris clarifies that this line represents a “...*process of integrated interplay between two equally psychological functions involved in any learning...*” (Illeris, 2009, p9). A vertical line represents the interaction process between the individual and their environment. This he described as forming a learning triangle.

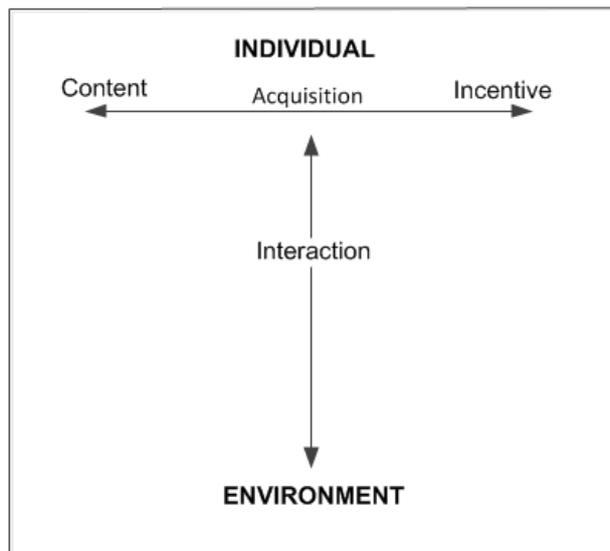


Figure 3-1 The fundamental processes of learning (Illeris, 2007, p.23)

Illeris clearly states that these three dimensions: Content, Incentive and Interaction are components of all learning and therefore uses this graphic to as a means to integrate a wide range of learning theories. Describing it as “The Tension Field of Learning” he mapped the work of theorists within the triangle as he perceived their contributions fitted in respect of the emphasis they placed on the different dimensions of learning at particular stages of thinking, aligning Content with cognition, Incentive with emotion and Interaction with society. See Figure 3-2

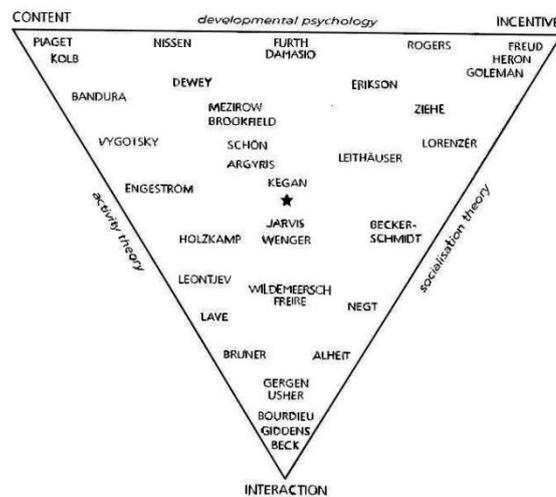


Figure 3-2 Positions in the tension field of learning (Illeris, 2007, p.257)

This potentially provided me with a framework through which to critique the literature within deaf education, yet it did not provide a means to reflect on external influences on learning. Illeris, in recognition of the need to acknowledge such influences, subsequently developed his representation of learning by developing a Complex Learning Model (CLM) that incorporated the external process of learning with the internal dimensions of learning described above.

3.3.3 The external process of learning

The external process of learning that results from the environment in which the learning occurs "...can roughly be divided into...the immediate learning situation and learning space and more general cultural and societal conditions" (Illeris, 2009, p27). Figure 3-3 illustrates the addition of the external process of learning represented by these two categories, labelled Social Situation and Societal Situation, within the inverted triangle. The horizontal line within this inverted triangle represents the two environment conditions selected by Illeris. The vertical line again represents the interaction between the individual and the environment and therefore becomes a shared representation.

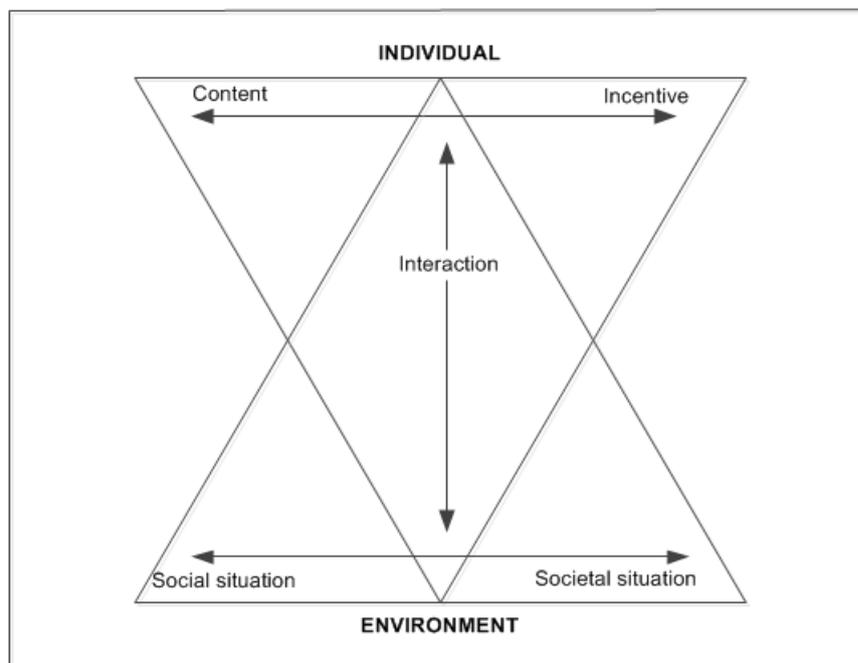


Figure 3-3 Illeris' Complex Learning Model (Illeris , 2007, p.98)

This model of learning represents a complex process that brings together the external influences on and internal process of learning. The external

influences may be reflected on in a more detailed manner by using Bronfenbrenner's ecological model (3.3.1) however it would not support detailed interrogation of the individual's learning experience. Illeris' Complex Learning Model endeavours to bring both together. It potentially provides a holistic overview that exposes both the internal and external processes of learning, which is fundamental to the aims of this study. In the manner that Illeris used his initial representation of learning to integrate the different learning theories the Complex Learning Model could be used as a framework to integrate the different perspectives represented within deaf educational literature. It would bring together both the internal process and external influences of learning at the centre of which is interaction. It could also be used to shape the analysis of data collected and provide an element of rigour to the investigation. Illeris' CLM was therefore used as the base for a theoretical framework through which the literature that relates to deaf students' learning in the mainstream classroom could be considered and the resulting data analysed.

3.4 Learning in mainstream classrooms

Illeris' CLM provides a broad overarching framework through which to consider both the research literature (Chapter 4) and analyse the data generated within this investigation (Chapters 6, 7 and 9). As the investigation was centred on one specific learning environment, the mainstream secondary classroom, it was expected to reveal detailed information regarding learning within this specific environment designed to impart knowledge and support skill development through social interactions. By approaching the investigation from a holistic perspective it was expected to provide insight into some of the ways the whole learning process influences the specific classroom learning. Consideration was therefore given to understandings of classroom learning from both the internal and external perspectives, in particular the psychological nature of the types of learning the classroom environment facilitates; the concept of a mediated learning experience; the role of the teacher or teaching assistant in facilitating that learning and how the learning is supported.

3.4.1 Internal process of learning in a mainstream classroom

Formal classroom learning is predominantly structured in a manner that promotes assimilative learning (Piaget, 1952). Assimilative learning is the

process in which new skills and information are relatively easily linked to previous learning, building up concepts and understanding through the development of mental schemas. It is typical of the learning that occurs within school based situations in which the structure of the learning is determined by the curriculum. The knowledge may be readily recalled within a similar context but not in others. It requires a mental balance to be present that allows the learner to be receptive to the acquisition process (Illeris, 2003). The key aspects of assimilative learning can be associated with the internal process of learning: Content, Incentive and Interaction.

See Table 3-1

	Assimilative Learning
Content	New information that builds on previous learning Easily recalled in a similar context May be more difficult to recall in other contexts
Incentive	Requires a mental balance to learn effectively
Interaction	Likely to occur in structured learning environments such as school through curriculum delivery by teachers

Table 3-1 Assimilative learning with reference to the three dimensions of learning

Accommodative Learning (Piaget, 1952) may also be encountered within the classroom, although much less frequently than assimilative learning.

Accommodative learning occurs when something new is encountered that cannot easily be linked to previous learning. It requires the learner to accept they will need to rethink previously developed concepts in order to accommodate the new information. This requires the mental energy and motivation to address this misalignment of information before being able to move forward with learning in a particular area. Once the learning has been successfully achieved it will be easily retrieved and may then be used to address a range of related but different situations (Illeris 2003). The key aspects of accommodative learning can also be associated with the Content, Incentive, Internal and External Interaction dimensions of learning. See Table 3-2.

	Accommodative learning
Content	New information that does not easily link to existing understanding. May need to deconstruct previous learning and reconstruct it to accommodate the new knowledge Learning may be retrieved and applied to different but germane situations
Incentive	Requires effort and motivation to accept the limitations of previous learning and then to develop a reconstructed concept.
Interaction	May require specific support in order to achieve effective successful learning

Table 3-2 Accommodative learning with reference to the three dimensions of learning

3.4.2 External influences on learning in a mainstream classroom

Mediated learning as presented by Feuerstein et al. (1979) identifies learning that results from interaction with the environment that is supported, guided and structured by another individual. The mediating individual, potentially a teacher, will be steered by their own intentions and layers of cultural influence, however the mediator does not need to be a more able or more experienced individual and therefore may be a peer and co-learner (Tzuriel and Shamir, 2007). Secondary classrooms are a formal learning environment in which the learning content is predetermined by a curriculum and the specific learning objectives are identified by a teacher. The teacher then designs how to support the students to develop the skills of and acquire the knowledge identified. The students' learning is therefore clearly guided and structured at a macro level as all the students in the classroom groups will be engaged in the same tasks. If the students are able to engage with the structured learning without the individual support of the teacher or teaching assistant, building their knowledge and skills by engaging with information and completing tasks aimed to consolidate the acquisition of the knowledge as structured by the teacher, it would indicate that they are

engaged in assimilative learning, see table 3-1, and a mediated learning experience.

On an individual level if the student requires additional individual support from a teacher, teacher of the deaf, teaching assistant or peer they may be considered to be engaging in a mediated learning experience at a different level and for a different purpose than described above. Such individual support for learning may also be considered as occurring within Vygotsky's Zone of Proximal Development (ZPD) which he defines as:

the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under the guidance or in collaboration with more capable peers (Vygotsky, 1978, p.86)

This concept of achieving learning and succeeding in problem solving through guidance of a more capable other was also considered by Wood et al. (1976) who introduced the term scaffolding to describe the process. The term scaffolding was further developed by (Bruner, 1978, Bruner and Watson, 1983, Bruner, 1981) in his work considering the process of language acquisition. All these descriptions, in which a third party is required to support the learning process, would align with the notion of a student being engaged in accommodative learning. See Table 3-2.

3.5 Teaching assistants talking about learning

With teaching assistants being placed centrally within this research to provide their perspective of the deaf student's learning experience consideration was also given to how teaching assistants' perceptions of learning have developed and how these perceptions might shape the data generated. As language and talk (Vygotsky, 1962) is a representation of our thinking it will be important to consider the language and terminology they use in order to accurately represent the teaching assistants' perspectives of deaf students' learning experiences. The manner in which a person discusses a topic provides an insight into their understanding of the subject matter. As there is no requirement for the teaching assistants to have any specific qualifications to undertake the role there is the possibility the participants will have received no training in the field of education or learning (Blatchford et al., 2011). Without a structured learning process to guide their understanding and knowledge of learning it will have developed in an ad hoc

manner and be dependent on their personal experiences. The above discussion indicates the complexity of the learning process and will apply to their own learning about learning. Such personal experiences when viewed from a holistic perspective will be varied within a group of teaching assistants, and may well not include an experience of learning as a deaf individual. Consequently it is important that consideration is given to the way teaching assistants talk about learning, the classroom environment and the students. This will provide a context from which to consider the challenges they describe deaf students experiencing. Teaching assistants are engaged in educational practice by the very nature of their presence in the classroom. Pring (2006) describes educational practice as a manifestation of how education is perceived:

An 'educational practice' embodies a way of thinking about its aims, what constitutes having learnt successfully, what skills, knowledge and values it is to incorporate (p.161)

It is vitally important to represent the teaching assistants' perspectives accurately to provide an understanding of how they view their role and learning. In order to achieve this it was necessary to develop an understanding of their perceptions of education, particularly the aims of the educational provision present in mainstream classrooms and how they consider they contribute to those aims. Such an understanding will provide an important context from which to reflect on the findings in relation to the deaf students. In order to address this and ensure it receives appropriate attention and comment a research question and sub question were developed:

RQ2 What language and terminology do teaching assistants use to talk about learning?

RQ2i What might be deduced about teaching assistants' understanding of learning in the classroom?

3.6 Summary

Within this chapter I have explored a theoretical perspective from which to investigate deaf students' learning within mainstream secondary classrooms. Based on a holistic philosophical base from Jarvis (2006), Illeris' CLM (2007) was proposed as a framework through which to review the research

literature and to provide a framework through which to analyse the data and introducing a common structure across the study.

As the investigation will focus on deaf students' learning within a classroom environment, close consideration was given to learning within such a structured educational setting. Specifically I considered the assimilative learning process, (Piaget, 1952)(3.4.1) and identified that as forming the dominant type of learning within a classroom (Jarvis, 2006, Illeris, 2007). The more challenging accommodative learning (Piaget, 1952) (3.4.1) was also considered and identified as potentially being part of the learning processes within schools. I reflected on the perspective of the Mediated Learning Experience (Feuerstein et al., 1979) (3.3.3) as a way to consider the support offered by teaching assistants. From this I suggested links between the structured organisational learning of the classroom and assimilative learning as well as links between an individual's learning supported by a teaching assistant and accommodative learning. Finally consideration was given to perspectives of how teaching assistants learn about learning and the importance for the interpretation of the data (3.5). This provided the rationale for RQ2.

The following chapter will consider the research literature that informs our understanding of the impact of deafness on learning within the mainstream classroom. The CLM will support the discussion.

Chapter 4

The impact of deafness on learning in mainstream secondary classrooms

4.1 Introduction

Underpinning this investigation is the all-pervasive nature of deafness which impacts on every experience a deaf individual has and therefore shapes the nature of their learning. Within a classroom the formative experiences of growing up as a deaf child will shape the nature of the interactions these students have with the other individuals as well as with the structured learning that is the purpose of the classroom situation. The following chapter will summarise the learning issues discussed within deaf educational literature that the teaching assistants may be engaged with when supporting deaf students in mainstream classrooms.

In order to provide a rigorous means to compare the issues raised in the literature and the resulting data the chapter begins by developing the CLM to accommodate the potential and well researched impact of deafness on language and communication (4.2). The adapted framework, the Complex Learning Framework for deaf learners CLF (DL), provides a means through which to integrate and critique the literature related to learning and to facilitate comparison with the data.

Using the CLF (DL) the review of the literature begins by considering interaction in the classroom for deaf students (4.3) beginning with the challenges of listening and communicating in the physical environment of the classroom (4.3.1). This will be followed by consideration of the language and communication skills of the deaf student and a range of factors that may influence their development and effectiveness within the mainstream classroom. This will include language skills (4.3.2), emotional development (4.3.3), and the social situation (4.3.4). However as interaction is at least a two way process between the deaf student and their teacher, teaching assistants or other students, factors that might influence the teachers' and hearing students' responses to the deaf student within the interaction

process will also be discussed (4.3.4). This area of the research aligns with a social constructivist perspective of learning.

A second important approach to understanding learning based within the psychological field is the consideration of cognition and cognitive processes. The potential impact of deafness on learning has been examined extensively from this perspective revealing differences in the cognitive processing for deaf learners which may manifest themselves in the mainstream classroom environment. These are discussed in section (4.4) and includes visual skills (4.4.1); attention (4.4.2); higher level cognitive skills (4.4.3) and reading (4.4.5). From this discussion the final research question will be presented. It will aim to ascertain the challenges teaching assistants identify as being experienced by deaf students when learning in mainstream classrooms.

4.2 Development of the CLM for deaf learners

The Interaction dimension of learning underpins much of the extant research that investigates the impact of deafness on learning. This includes consideration of the students' own language abilities as well as their ability to engage in meaningful communication with others in their environment. It is proposed, therefore, to emphasise the presence of Interaction within the framework and to distinguish between the internal processes of, and external influences on, Interaction by creating two subdivisions: Internal Interaction and External Interaction. This also emphasises the Content and Incentive perspective within the Internal Interaction; that is the skills and knowledge required, as well as the confidence and motivation, to engage within interaction. Within the External Influences on Interaction it emphasises influences that emanate from the immediate Social Situation of the classroom as well as those that have their origins within the Wider Societal Situation.

See figure 4-1

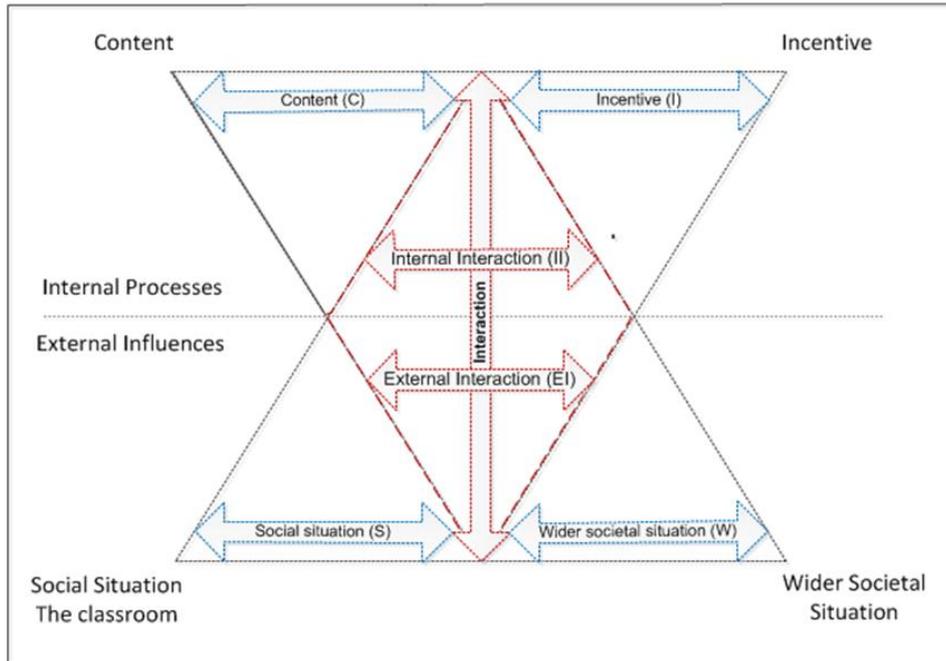


Figure 4-1 Complex Learning Framework adapted for Deaf Learners CLF(DL)

The use of such a framework within this investigation is not to imply that the dimensions of learning are separate issues or represent mutually exclusive categories but rather they represent different facets of a complex situation. Indeed Illeris describes the three dimensions of Content, Incentive and Interaction as being simultaneously present when learning occurs:

all learning involves these three dimensions, which must always be considered if an understanding or analysis of a learning situation can be adequate

(Illeris, 2006, p.25)

Neither is the implementation of the framework intended to infer or imply that these three dimensions are equally represented when considering different aspects of learning. As can be detected in the discussion of the research within deaf education above, different dimensions maybe more evident than others depending on the perspective from which the learning is viewed. The purpose of the CLF (DL) is to facilitate a more detailed comparison of the literature with the data to be collected than might otherwise be achieved. within some areas of learning more than one dimension is clearly identifiable and consequently have been included in more than one dimension with an explanation of the different facets that are evident.

Within the deaf education research literature the studies that may be considered as falling within the Incentive dimension relative to classroom

learning have predominantly focussed on the importance of confidence and motivation for Interaction(4.3.3). The issues therefore have been discussed within the Internal Interaction dimension.

4.3 Interaction in the mainstream classroom environment

The Interaction dimension is prominent within deaf education literature and includes consideration of the internal language skills of the individual deaf students as well as the communication skills they demonstrate. The research also considers external factors that may influence the effectiveness of the interaction for the deaf students such as acoustics. The internal processes of the Interaction dimension of learning incorporate the skills and attributes a deaf student requires to engage in classroom interaction such as vocabulary and understanding of grammatical structure. Such knowledge of language will be categorised within the Content subgroup of Internal Interaction. Research that focuses on the deaf students' motivation and confidence to communicate with others will be categorised within the Incentive sub group of Internal Interaction.

The External influences on Interaction within the classroom situation include the deaf students' use of their listening and communication skills; their response to social situations; the attitudes of their teachers and peers as well as the support practices adopted within any particular setting. The issues identified are summarised in Figure 4-2 and indicate the manner in which they are considered to related to the CLF (DL) for the purpose of this investigation.

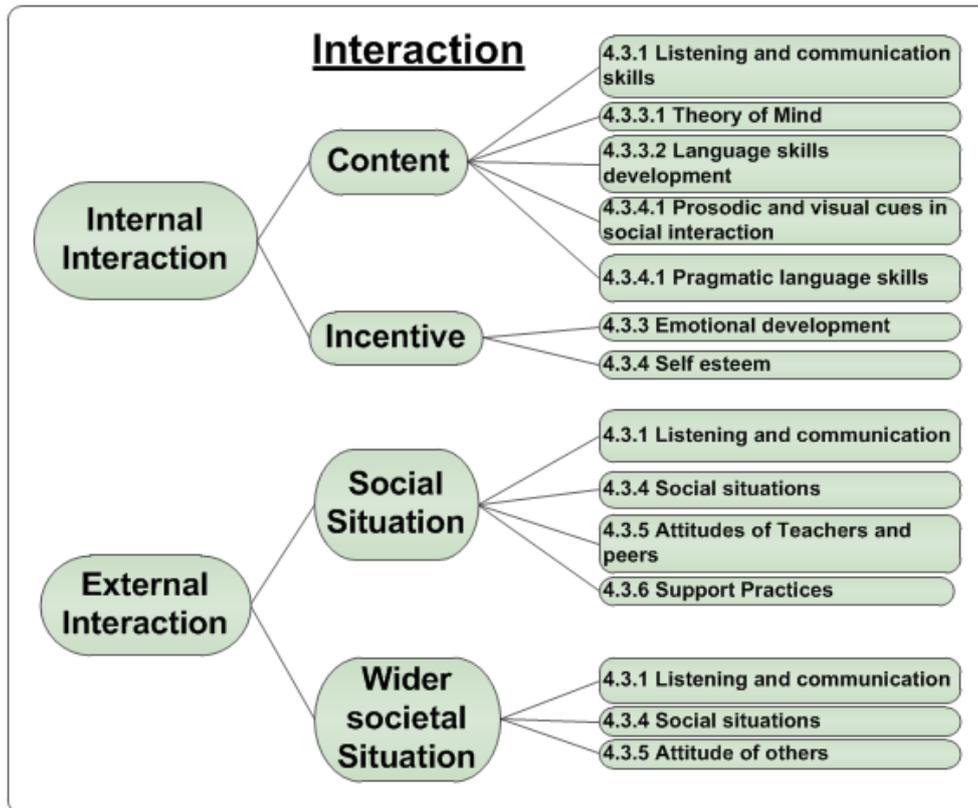


Figure 4-2 Deaf student’s learning from the perspective of the CLF (DL), Interaction dimension

4.3.1 Listening and communicating

Within the classroom environment ensuring that the deaf student is able to access the teacher’s input has provided the main focus for research. For those students who use spoken language this has involved the development and provision of appropriate technology (Anderson and Goldstein, 2004, Iglehart, 2004), ensuring it is used effectively (Crandell and Smaldino, 1999, Johnson, 2014) and that the room acoustics are optimal (Boothroyd, 2004, Crandell et al., 2005). For those students who use BSL this involves the provision of a BSL interpreter or Communication Support Worker (CSW). A CSW is officially a teaching assistant who has received specific training to support learning through the use of BSL although it is a term frequently adopted by to indicate a teaching assistant who has BSL skills. There are also a significant number of deaf students who will make use of both spoken and signed language and Sign Supported English. Whilst there has been much research and debate into the most appropriate language approach to use when educating deaf students this is not the focus of this study and will not be discussed here. More relevant is research that considers the quality of the interaction in the classroom assuming that the student is provided with

either appropriate technology or suitable signed support that allows them to hear or see what is being said.

Classrooms are recognised as noisy environments in part because they frequently contain a number of people and they are often reverberant environments (Bistafa and Bradley, 2000) leading to poor listening conditions. Children experience more difficulties than adults listening in background noise (Sato and Bradley, 2008) and children with deafness and/or English as an additional language find such conditions particularly challenging. Furthermore deaf children demonstrate less awareness of their ability to monitor how well they are able to listen in noise, frequently overestimating how much they have heard and being unaware their understanding has been compromised (Rothpletz et al., 2012).

Deaf students' ability to monitor their understanding and access to the delivery of information delivered via sign language also appears to be less successful than their hearing peers' ability to monitor their understanding of spoken delivery (Borgna et al., 2011, Morrison et al., 2013). There are also a number of challenges to providing sign language interpretation in the classroom particularly with the increased use of visual support including media presentations. The student is not able to observe the interpreter and the visual stimulus simultaneously (Smith, 2010). See (4.5.2). Furthermore Russell and Winston (2014) identified the importance of the interpreter understanding the linguistic competence of the deaf child they were working with in ensuring the interpretation was appropriate. They also concluded that the interpreter provides more accessible interpretation if they themselves "*... demonstrated higher order cognitive skills...attended to the teacher intent and student language preferences...*" (Russell and Winston, 2014,p.102). This would also suggest that a teaching assistant who has an understanding of learning within a mainstream classroom will be better placed to support that learning.

Such research would indicate that regardless of the communication mode used in the classroom there are a range of complicating factors that influence the success of the interaction.

4.3.2 Language development of deaf students

Language is central to interaction and has been the focus of a large body of research within deaf education. Deafness has an impact on language development which subsequently has an impact on learning. Language is

fundamental for learning because, as identified by Vygotsky (1986), it provides a fundamental tool through which to mediate learning. Much of the research has explored the potential benefits and disadvantages of one communication mode over the other: spoken or signed language although no consensus has been reached. It is becoming increasingly clear that there is not a panacea but rather the needs and strengths of the individual should be recognised in supporting language development (Marschark and Knoors, in press). Underlying much of the research appears to be an assumption that deafness only impacts on a child's language and communication and that if that obstacle is overcome, either through audiological support or the provision of sign language, then the deaf child will be able to learn in a very similar way to a hearing child (Swanwick and Marschark, 2010). It is interesting to note that despite the focus on language development within deaf education, very little research has been undertaken to consider deaf students' use and development of language in the classroom environment itself (Swanwick and Marschark, 2010).

The language development of deaf children has been researched from a range of different perspectives and these have considered many different aspects of language. The basic building blocks such as vocabulary, grammar and syntax have been explored extensively in respect of both spoken and signed languages. It is well documented that deaf children have smaller and more individual vocabularies than their hearing peers (Griswold and Commings, 1974, Kiese-Himmel, 2008, Lucker and Cooke, 2010, Percy-Smith et al., 2013). Deaf children frequently have a poorer understanding of grammatical structures (Nikolopoulos et al., 2004, Spencer, 2004, Bishop, 1983, Kelly, 1996) which results in difficulties understanding complex sentences or expressing complex concepts. The narrative structure of language also presents challenges (Boons et al., 2013b, Boons et al., 2013c). In addition deaf children frequently experience difficulty comprehending spoken language if it contains figurative and non-literal references (Nicastri et al., 2014, Rittenhouse and Stearns, 1990, Everhart and Marschark, 1988).

The deaf students' language development will be influenced by a wide range of factors including: age of deafness; age of diagnosis (Holzinger et al., 2011, Boons et al., 2013a); access to fluent language models, combined with the factors that influence hearing children's language development for example parental education (Carson et al., 1999) and social and economic

factors (Yoshinaga-Itano et al., 1998). Whilst some deaf children will develop age appropriate language skills, many will not. It is likely therefore that those deaf students requiring additional support within a mainstream classroom environment will experience some level of language delay in comparison to their hearing peers. The potential impact of such language delays on the deaf students' cognitive abilities is explored below (4.3).

4.3.3 Emotional development of deaf students

The direct relationships between emotional development and academic outcomes for deaf children have not been studied specifically (Marschark and Knoors 2014) but it is reasonable to assume that deaf children are at risk from the same factors as all children. For example family background, economic influences, health and the quality of their language environment (Antia, in press) will all influence their academic outcomes. In a number of respects deaf children, along with other disabled children, are more vulnerable to abuse from adults and peers (Stalker and McArthur, 2012). In line with findings in the general population the support networks provided by family and school are very important for deaf children's social and emotional well-being, maybe more so than their language development (Leigh et al., 2009).

4.3.3.1 Theory of Mind

The impact of deafness on the social and emotional development of children has been investigated extensively, particularly in respect of language development because of its importance in supporting social and emotional development (MacTurk et al., 1993, Perner and Lang, 1999). In particular poor language development has been associated with delayed Theory of Mind (Premack and Woodruff, 1978), a cognitive function that is strongly associated with social competence. This appears to develop more slowly for deaf children and impacts on their developing social skills (Courtin and Merlot, 1998, Perner and Lang, 1999). Theory of Mind ToM is a complex set of cognitive functions that provide the means through which a child understands that they, and others, have perspectives, mental states such as their desires, beliefs and intentions. Hearing children with no developmental disorder will typically develop ToM between 4 and 5 years of age (Perner and Lang, 1999) however a number of studies indicate that deaf children often lag behind their hearing peers by several years (Courtin and Merlot,

1998, Peterson and Siegal, 1999). This would indicate that they will enter formal schooling without this important cognitive processing skill established.

The concept of ToM has developed significantly over the last decade as researchers have endeavoured to understand the processes that enable it to happen and the developmental stages it entails. Wellman and Liu (2004), defined a five step sequential pathway demonstrated by typically developing children. Deaf children may follow slightly different pathways by making use of pretend play situations more readily to gain understanding around others' mental states (Peterson and Wellman, 2009). It is also clear that ToM extends beyond the initial concept and that more nuanced and advanced skills have been detected. It is recognised as including cognitive and affective ToM combined with interpersonal and intrapersonal ToM, each of which manifest itself in different behaviours and understanding (Westby and Robinson, 2014). For example one of the more advanced interpersonal skills is an understanding of sarcasm normally established around the age of 9 years which may be delayed for deaf children (Peterson et al., 2012). Ketelaar et al. (2012), identified that children with cochlear implants and age appropriate language made good progress in the early stages of ToM development but their progress slowed whilst developing the more advanced skills. This potential delay in the development of ToM may impact on a deaf student's ability to engage with the learning activities in the classroom as effectively as their hearing peers.

4.3.3.2 Prosodic and visual cues in social interaction

Emotional competence has been identified as an accurate predictor of future academic success (Izard et al., 2001) and deaf children's emotional development may be delayed but appears to follow the same developmental pathway as hearing children (Ludlow et al., 2010). It has been identified that for deaf students prosodic features of speech and visual cues may not be easily accessible and consequently important contextual clues provided by the communicative partner may be missed. Deaf students are often dependent on visual information, particularly the face of the speaker, to assist in supporting linguistic understanding through speech-reading, and therefore they may not give attention to other nonverbal information provided on the face or through body language (Most and Aviner, 2009). This research also suggested that hearing aids and cochlear implants may not be sensitive enough to detect prosodic features of speech such as tone; pitch; emphasis and inflection, or the users may not have learnt to detect and

understand its importance for meaning. A previous study demonstrated that following an intervention programme children who use cochlear implant technology can detect and correctly interpret prosodic features of speech (Klieve and Jeanes, 2001). Challenges in fully comprehending the complexities of interactions between individuals are likely to contribute to deaf students' difficulties in managing social situations within the classroom and consequently impact negatively on their self-esteem.

4.3.4 Social situations and self-esteem

Deaf adolescents who appear to have had no additional challenges have been identified as likely to have low levels of self-esteem (Theunissen et al., 2014); consider they are less socially acceptable and have fewer close friends when compared with a group of hearing adolescents (Leigh et al., 2009, Loeb and Sarigiani, 1986). A correlation between self-esteem and academic performance has been established (Lane et al., 2004, Pullmann and Allik, 2008). Adolescence itself presents challenges to self-esteem and confidence as the young person endeavours to develop their adult persona and it is conceivable that for many older deaf students adolescence has a more dramatic impact on their sense of self than it does on their hearing peers (Steyger, 2004, Charlson and et al., 1992).

Young deaf children with age appropriate language skills do not always demonstrate confidence in social situations despite levels of self-esteem comparable with their hearing peers. Often they will be happy to play with a single hearing peer but are less willing or indeed find it more difficult to contribute equally to a social situation involving more than one other child (Martin et al., 2011). Older deaf students also experience this difficulty, the challenges it presents are apparent when observing a deaf student within a group situation. They frequently struggle to follow the conversation and miss valuable social cues from the group dynamic. Group learning activities frequently form an important contribution to pedagogical practices in mainstream secondary schools.

4.3.4.1 Pragmatic Language skills

Poor pragmatic language skills are also associated with less well developed social and emotional development (Goberis et al., 2012) and may lead to problems in social contexts (Conti-Ramsden and Botting, 2004). Deaf students' development of pragmatic skills has been demonstrated to be slower than their hearing peers and deaf students tend to be significantly

older when gaining competence in this complex linguistic area regardless of whether they used signed or spoken languages (Thagard et al., 2011). Children who make use of different hearing technologies such as hearing aids and cochlear implants also do not exhibit significantly different profiles on measures of pragmatic language skills (Most et al., 2010).

One key area of pragmatic language that presents deaf students with a significant challenge are the skills required for maintaining a conversation. In order to maintain a conversation a deaf child needs to recognise when a misunderstanding has occurred either on their own behalf or that of the communicative partner, to request appropriate clarification and respond appropriately to requests (Martin et al., 2011). The greater the speed and accuracy with which an individual is able to rectify the breakdown, the more likely it is the conversation will continue to develop. Deaf children are more likely than hearing children to make unspecific requests for clarification and to respond with a lack of clarity, possibly not clearly comprehending the nature of the difficulty (Jeanes et al., 2000). As a classroom environment is constructed to explore new concepts and introduce new ideas, clarification of dialogue will often be necessary in discussions with both adults and peers.

4.3.5 Attitudes of others

Another striking feature of the body of evidence regarding the impact of deafness is that it almost exclusively focusses on the deaf individual and how deafness impacts on their experiences. There is little consideration of how the deaf individual influences and shapes their own environment or affects the other individuals within it with the exception of parents and in particular mothers. Studies have considered the importance of parents and how having a deaf child affects the parents and their subsequent relationship with their child (Meadow-Orlans et al., 2000, Meadow-Orlans et al., 2003, Plotkin et al., 2014, Vaccari and Marschark, 1997). Luterman (2004), for example describes the potential impact of guilt and fear on the arrival of a deaf child for many parents. His work in early support for deaf children through early years' programmes was based on the philosophy of ensuring the parent felt informed, empowered and in control. As humans we are social beings and interaction requires at least two individuals yet research has rarely reflected on how deafness in one individual influences the communicative partner and the manner in which they contribute to the

interaction as a consequence. The following sections will consider these potential challenges for teachers and peers.

4.3.5.1 Teachers

The importance of a positive attitude towards the inclusion of students with disability by the mainstream teachers has been identified as fundamental to the success of the process (Avramidis and Norwich, 2002). Teachers are reported to be influenced by the label given to the child's needs. Responses are reported to be more positive to those children with mild disabilities, physical difficulties (Huang and Diamond, 2009) and sensory losses (Avramidis and Norwich, 2002) than to children with severe learning disabilities or emotional and behavioural difficulties (Avramidis et al., 2000, Avramidis and Norwich, 2002). Recent research in the Netherlands indicates that many mainstream teachers are positive about the inclusion of deaf students in their classes (Vermeulen et al., 2012, Bruggink et al., 2014); based on the teachers responses to questionnaires and interviews. This indicates a substantial change in attitudes from the late 1980s and early 1990s when the inclusion of sensory impaired children in a mainstream classroom was considered to be particularly difficult (Clough and Lindsay, 1991, Ward and Déan, 1996).

Since this time there have been substantial changes in the identification and management of deaf students and technological advances in hearing aid technology and the development of cochlear implantation (2.3.1).

Consequently, many deaf students, including profoundly deaf students, may present with no immediately obvious indication of their level of hearing loss as their speech production may provide no indication that they do not hear everything. This may lead to mainstream teachers being more positive about their inclusion within mainstream classrooms as they incorrectly interpret this as linguistic and communication competence (Wheeler et al., 2004). This positive acceptance which may be based on misperceptions of deaf students' language and communication competence may result in mainstream teachers being less aware of their need to modify their lesson delivery to accommodate the students' language skills. This may lead to some deaf students becoming frustrated and result in disruptive or withdrawn behaviour. Vermeulen et al. (2012), identified that the teachers developed negative attitudes towards the deaf students whose behaviour became disruptive in their classroom. Teachers were less willing to be flexible and accommodate the deaf students' needs if their behaviour was

considered difficult and they demonstrated a negative attitude to work. This was not however found by Eriks-Brophy and Whittingham (2013) who reported that the teachers in their study did not consider deaf students to be disruptive.

The importance of teachers' awareness of the communication success of deaf students was explored by Braeges et al. (1993) with a cohort of 95 deaf students who attended a school for the deaf. She identified that those students who were confident in contributing to the class activities and felt they were understood and considered by teachers to be involved and motivated achieved more academically than those students who felt

...frustrated, misunderstood and confused regarding classroom communication and who were perceived by their teachers as bored or uninvolved." (Braeges, 1993, p.244)

The structure of the formal system within many secondary school settings does not easily support direct contact in which to build relationships between students and mainstream teachers. In the course of a week a student may work with a dozen different teachers and even encounter more than one in a particular subject area. Consequently difficulties with communication, cognitive processing and fatigue (McGarrigle et al., 2014, Hornsby et al., 2014) may lead a teacher to perceive that these are in fact an unwillingness to engage in class activities rather than as a result of communication or language issues.

Teachers and peers perceive that deaf students experience far less difficulty with communication than the deaf students reported themselves (Zheng et al., 2001, Rekkedal, 2015). It is interesting to note that teachers of hearing students rarely underestimated their students' understanding but frequently overestimate it (van de Pol and Elbers, 2013). The authors also identified that the teachers' perception of the students' understanding influenced the nature of the subsequent support they provided. Similar findings were reported by (Begeny et al., 2011, Wittwer et al., 2010). All three studies indicate that individualised knowledge of students leads to more accurate judgements of their levels of achievement and competence. It would follow, therefore, that for a deaf student's learning to be effectively mediated a teacher would require a detailed understanding of the student's communicative abilities, concept development and the manner in which their deafness shapes their cognitive processes.

Teachers frequently consider they have received insufficient training to allow them to develop these understandings (Eriks-Brophy and Whittingham, 2013). Indeed insufficient training for mainstream teachers in teaching students with SEN is a recognised challenge for inclusive practice, (Boyle et al., 2013). It has also been suggested that 50% of the variability in outcome for deaf students may in fact be due to instructional factors (Marschark et al., 2011), a lack of training for mainstream teachers is likely to be a significant factor.

It is important to recognise, however, that a mandatory qualification exists for those teachers who teach groups of deaf students on a regular basis and whilst it is not compulsory for peripatetic teachers, who may visit deaf students in mainstream settings, it is strongly advocated within the current SEN Code of Practice (Department for Education and Department for Health, 2014). This qualification corroborates the level of expertise required to work with deaf children, as with other children with a sensory impairment. It is acknowledged that a subject specific mainstream teacher would not be expected to have the same depth of knowledge of the needs of a deaf student as a teacher of the deaf. This also raises the question of the role of the specialist teacher of the deaf within mainstream settings; the contribution they make and whether or not it is adequate along with the questions raised regarding teaching assistant contributions.

4.3.5.2 Peers

Students spend a significant part of their lives within their particular school setting and consequently it provides an important social environment. The success or otherwise of the social interactions will have a significant impact on many different aspects of a child's educational experience depending on the nature of the interactions and with whom they occurred. Inevitably they will have an impact on their learning and academic achievement (Zins et al., 2007, Garner, 2010). Indeed emotional competence has been identified as an accurate predictor of future academic success (Izard et al., 2001).

There is limited research that has considered the influence of the classroom on the deaf student. Hintermair (2011), used quality of life measures to examine the importance of positive experiences in school and home for deaf students' overall quality of life, concluding that a positive experience in school was more important for deaf students than for their hearing peers. Those students who reported they were comfortable communicating in the

classroom and considered they were easily understood by their peers and teachers achieved well academically; those who felt they were not able to participate fully achieved less well. Positive peer relationships were also described as important by the deaf students in helping them to feel engaged in the classroom as part of the community. When deaf students experienced negative attitudes towards their deafness it could lead to social and academic difficulties. There are clearly a number of significant influences that exist within the mainstream classroom that warrant further investigation in understanding how to ensure the social context classroom environment can support deaf students.

4.3.6 Support practices

Many deaf students in mainstream settings will receive support from a teaching assistant presenting a situation in which their learning is mediated or guided by an individual other than the classroom teacher. Such a mediated learning experience may be a useful strategy but it requires collaboration and knowledge. Marschark et al. (2008), demonstrated that deaf college students made similar progress and gained equivalent information when a lecture was delivered directly by a lecturer fluent in American Sign Language (ASL) or accessed through an experienced ASL interpreter who was specially trained to interpret in higher education. Whilst this study was conducted in a different environment to a mainstream secondary school it does suggest that mediated teaching through an ASL interpreter can be successful if the lecturer and interpreter are highly trained and work effectively as a team. In school based settings the most successful interpreters are those familiar with the language choices of the deaf student; have a clear understanding of the teacher's aims and are able to use both to inform their interpretation for a particular student (Russell and Winston, 2014). This would indicate that effective mediated learning experiences require more than knowledge of facilitating communication to be effective. They are also contingent on knowledge of a student's understanding of the concepts being taught (van de Pol and Elbers, 2013). The discussion will now consider the impact of deafness on cognitive skills.

4.4 The cognitive profile of deaf students

Swanwick and Marschark (2010), identified the perception among researchers and educationalists that deaf children are hearing children that

cannot hear and that if their language difficulties are eliminated that they will then learn in the same way as hearing children. Such a perception is reinforced by government documents that refer to removing the barriers to learning and ensuring access to the curriculum as in the SEN Code of Practice (Department for Education and Science, 2001). This terminology has transferred to the new SEND Guidance (Department for Education and Department for Health, 2014). Research considering deaf children's cognitive functioning suggests that this is not the case and that their cognition differs from that of hearing children for example in visual-spatial processing, memory and executive functioning (Marschark and Knoors, 2012). Indeed research investigating the impact of deafness on children with mild, moderate and unilateral hearing loss who develop language within the expected norms would support this (Bess and Tharpe, 1984, Lieu, 2004, Holstrum et al., 2009). One study of 64 children with a unilateral hearing loss and overall average intelligence quotient as determined by the Wechsler Intelligence Scale revealed atypical profiles on the subtests. Those children with right sided unilateral hearing loss "*...achieve lower levels of development within verbal intelligence...*" and those with left sided unilateral hearing loss "*...achieve a lower level of skills within non-verbal intelligence.*" (Niedzielski, 2006, p.1532). Research is also beginning to indicate that deafness may impact on the social and emotional development of deaf children in ways that are not exclusively linked to language competence (Most and Aviner, 2009, Izard et al., 2001).

Tests of cognitive potential developed for the hearing population do not appear to be able to accurately predict deaf children's potential (Knoors and Marschark, 2014). Indeed the average outcomes on non -verbal intelligence scores indicate similar profiles for groups of deaf and hearing pupils when additional difficulties are excluded. Verbal tests, however, indicate differences in part because of the language difficulties deaf children experience (Braden, 1985). The following sections (Figure 4.3) discuss key areas that have received particular attention within the field of deaf education: visual skills, memory, attention, higher level cognitive functioning and reading. The motivation behind much of the research was to determine the impact that language mode, signed or spoken, might have on the cognitive development of deaf children. Such research has frequently been used to provide support for a focus on one or other language mode within the deaf education field. More recent investigations into the development of

Theory of Mind (Morgan, in press, Peterson and Wellman, 2009, Wellman and Peterson, 2013, Westby and Robinson, 2014) demonstrates a move away from focus on language whilst considering the cognitive development of deaf children and is revealing that there are other influential factors. This represents an important development within deaf education. There is still much to investigate particularly with regard to the manner in which a different auditory experience influences a child's perception, attention, information processing and memory. The following sections will present a brief summary of the research that currently informs our understanding of deaf students' cognitive profiles:

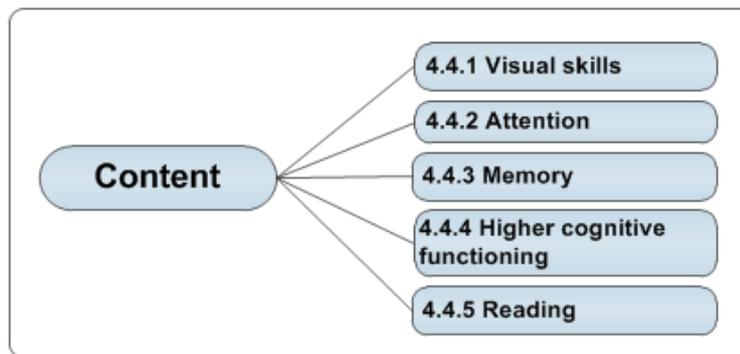


Figure 4-3 Deaf student's learning from the perspective of the CLF (DL), Content dimension

4.4.1 Visual skills

There have been a number of investigations into the visual skills that a deaf child may develop although it is important to recognise that they are also more likely to have visual problems than the general population (Falzon et al., 2010, Nikolopoulos et al., 2006). Deaf children may have an advantage in terms of being alerted to visual information that occurs in their peripheral visual field but as a consequence pay less attention to what is happening within their central visual field. This has implications for a visually busy classroom environment in which deaf children may find it difficult to focus on a particular situation and not be distracted by things happening around them (Bavelier et al., 2006).

New technologies are now enabling researchers to detect differences in brain functioning and studies using such techniques have indicated that differences occur in respect of the speed of recognition of visual information between deaf and hearing participants. Bottari et al. (2011), demonstrated that deaf individuals were able to detect a visual target ahead of hearing participants wherever the visual stimulus was presented and not just within

the peripheral field. The use of such technology as Electroencephalography (EEG) and the developing understanding of the information it provides is almost certainly going to be able to develop our understanding of the brain's response to auditory deprivation. It may be indicating that the brain, deprived of auditory stimulation, is differently wired to respond to visual stimulation (Bavelier et al., 2006). How this might impact on learning in a mainstream classroom is difficult to predict but it is an important area of research to monitor.

4.4.2 Attention

Attention is a key aspect of cognitive functioning as without the ability to pay attention to information the brain will not have information to process.

Attention however presents two particular challenges for deaf children even before issues of motivation are considered. In order to attend to a single source of auditory information, such as a teacher's voice, in the presence of other sources of auditory information, whether speech or otherwise, requires two ears that are able to detect very small differences in the volume and frequency content of speech as well as the differences in time the sound takes to reach each ear. These differences enable the brain to locate the source of a sound and therefore filter out the distractions. A reduction in such sensitivity which occurs even with a mild hearing loss makes it extremely difficult for a person to pay attention to a single sound source without additional support.

A second significant challenge for deaf learners is the ability to access language and visual stimulation simultaneously (Prezbindowski et al., 1998, Tasker et al., 2010, Lieberman et al., 2013) as additional visual information will be required to support access to the language. A deaf student who uses sign language will not be able to attend to an object, picture, video or experiment at the same time as accessing the visual language. A deaf student who uses spoken language and hearing technology may well require access to lip reading to fully detect the spoken word, particularly when background noise is present as is often the case in a classroom. Deaf students' engagement with the science curriculum and their acquisition of scientific skills are particularly affected by the challenges of joint attention as it includes a high level of practical and demonstrated content. (Tasker et al., 2010). The increased use of video clips within classrooms also presents a particular challenge for attention even if subtitles are available. Subtitles may be too challenging for a student to read and comprehend (see 4.5); they may

divert the students' attention away from the visual presentation and deaf students do not combine the visual pictorial information from a video with the accompanying subtitles as well as their hearing peers (Jelinek Lewis and Jackson, 2001). However without subtitles the presence of poor quality sound, background music or sound effects will make it extremely difficult for deaf students to access any dialogue.

4.4.3 Memory

Memory is a crucial part of the learning process not only for the retention of information and the ability to recall previously learnt facts but also for the working memory required to mentally manipulate key information whilst engaged within a particular task. For deaf students, the processing of words and the meaning associated with them appears to be slower than for their hearing peers (Marschark et al., 2004). It would appear that the links and connections between words are less strong for deaf students than for their hearing peers with similar vocabulary knowledge. This led to the conclusion that *"...there are qualitative differences in both organization and application of that knowledge that influence performance."* (Marschark et al., 2004, p59).

Deaf students' memory also appears to differ from that of hearing students in their use of sequential and visual memory skills. Sequential memory is the ability to remember a series of items in the correct order. Visual memory is the ability to recall information that has been presented in a visual manner. A number of studies have revealed that both of these memory skills strongly correlate with the language mode used, signed or spoken. Those individuals who predominately communicate through sign language develop stronger skills in visual memory, particularly for details within complex diagrams, than do hearing children and adults (Todman and Cowdy, 1993, Hall and Bavelier, 2010). Those deaf children and adults whose primary language is in the spoken mode, and particularly those who demonstrate good phonological processing, perform better with sequential memory tasks (Hall and Bavelier, 2010).

Both visual and sequential memory contribute to working memory, that is the process required to bring together the range of different information and skills needed when engaging on a particular task. The Working Memory Model, is described as

A temporary storage system under attentional control that underpins our capacity for complex thought (Baddeley , 2007p.1)

It comprises four components. The *phonological loop* which processes language based information and the *visuospatial sketchpad* which facilitates the limited retention of visually and spatially accessed material. The *central executive component* manages the processing of this information, enabling attention to be given to different parts of the information as it is required. The final system, *the episodic buffer* enables the information to be used and manipulated in a purposeful, coherent manner that also allows reference to previous experiences. (Henry, 2012). Research indicates that the engagement of working memory appears more challenging for deaf students than for hearing students (Hansson et al., 2004, Cockcroft et al., 2010), not just because of the differences in their cognitive functioning as described above but also because of the increased attention required in accessing the information particularly the language based component, that is being presented to them (Willis et al., 2014, Nittrouer et al., 2013). This access may be through an interpreter, a visual mode, or via listening through hearing technology which does not replace normal hearing and frequently requiring an additional visual component such as lip reading or Sign Supported English (SSE) to fully comprehend the language component. Some of the challenges posed for deaf students' working memory have been illustrated by studies which have explored problem solving. These reveal that deaf children demonstrate differences in their use of language; the application and transfer of knowledge and skills, as well as the visualisation of problems. (Pagliaro and Ansell, 2002, Ansell and Pagliaro, 2006, Bull et al., 2005, Blatto-Vallee et al., 2007). The studies in general conclude that deaf children are cognitively less well equipped to tackle problem solving tasks successfully than their hearing peers in part because of the extra load required on their working memory.

4.4.4 Higher Level Cognitive Functioning

Higher level cognitive skills are described as the processes that operate on the output of the lower level skills such as perception and memory. It includes metacognition, or thinking about thinking (Marschark and Knoors, 2012) and executive functioning; that is the overall process of bringing together the cognitive processes, knowledge and behaviour control required to deal with a novel task or situation (Miller and Wallis, 2009).

Metacognition is the process by which an individual is able to monitor and evaluate their own cognitive performance, recognising when comprehension and correct deductions have taken place. A number of studies have

identified that deaf students' metacognitive reading strategies are less well developed and employed than those of their hearing peers (Andrews and Mason, 1991, Schirmer et al., 2004). They are less likely to identify internal inconsistencies in a text as well as inconsistencies between the text and world knowledge (Gibbs, 1989) and are not as adept at identifying the main points in a passage (Borgna et al., 2011). The ability to monitor their understanding of a text would appear to be a contributory factor (Kelly et al., 2001). Intervention strategies have been developed to support deaf students' meta-comprehension skills (Martin et al., 2001, Mousley and Kelly, 1998). In addition to overestimating their understanding of a text, deaf students may also over estimate their understanding of information delivered through both spoken and signed languages (Borgna et al., 2011, Marschark et al., 2005).

Metacognition along with working memory and the ability to control behaviour form a complex and powerful cognitive system referred to as executive functioning (Miller and Wallis, 2009). As deafness has been identified as having an impact on the development of both working memory (Hansson et al., 2004) and metacognition (Kelly et al., 2001) this in turn influences a deaf child's executive function. There is a positive correlation between language and executive functioning for both deaf and hearing children (Figueras et al., 2008). The authors investigated the correlation between oral language, receptive skills, vocabulary and grammar with a number of executive functioning tasks. A selection of these involved tasks that required the use of language whilst others required visual attention. The correlation between language levels and the executive functioning tasks that require visual attention were not as conclusive, indicating that whilst some aspects of a deaf child's executive functioning may be influenced by language levels not all are affected equally. The more frequently children are faced with new tasks and are able to tackle them independently the better they will become in dealing with problems (Marschark and Knoors, 2012). However deaf children frequently receive substantial amounts of support within the classroom which limits their opportunity to practise and develop these important executive functioning skills. This level of support and the nature of the interactions also impacts on deaf students' behaviours as they become more reliant on support and less willing to take risks or tackle problems for themselves.

Behaviour and deaf students' responses to the challenges of learning within a classroom has predominantly focussed on the importance of confidence and motivation for Interaction (4.3.3). The issues raised therefore sit within the Internal Interaction dimension. See figure 4-2.

4.4.5 Reading

The language skills of deaf children impact directly on their reading. The development of reading skills continues throughout education as text based learning becomes more complex and increasingly provides access to new information which may be particularly important for deaf learners (Marschark et al., 2009). Investigations into the reading progress and attainment of deaf children have considered the relationship between language skills and reading development and whilst a positive correlation exists the studies also reveal that a wide range of knowledge, visual and cognitive skills are required to read successfully (Calderon, 2000, Geers and Hayes, 2011, Kyle and Harris, 2006, Archbold et al., 2008, Coppens et al., 2012, Coppens et al., 2013). This may best be illustrated through the consideration of a model of reading. The Construction-Integration Model (CI) (Kintsch and Rawson, 2008) presents the different processes and skills required for successful reading, that is the reader is comprehending and constructing meaning from text. It presents reading as consisting of different levels of processing: linguistic, microstructure and macrostructure that involve direct engagement with the text combined with the process of linking the concept evoked by the text to the readers own experience and understanding: the situational model.

It is important to recognise that these are not discrete or separate processes but represent parts of an integrated and complex process. The linguistic level refers to decoding the individual words on the page and therefore identifying the component vocabulary. These words and the meaning they are intended to convey, become clearer when considered within the microstructure, a sentence or phrase. The manner in which the words are combined or the grammatical structure therefore affords important information within the comprehension process. As these phrases build within the macrostructure the reader is able to begin to construct themes and concepts presented in the text. The information presented within the text will then develop differently for each individual depending on their own experiences, knowledge and understanding of the world. This too will be a complex integration of a factual representation combined with an emotional

and experiential based understanding which may in some cases result in the reader's interpretation of the text not matching that intended by the author.

Within the UK much emphasis has been placed on the development of phonological skills for decoding within the primary curriculum (Rose, 2006) that support the linguistic process of the CI model. Whilst phonological decoding skills have clearly supported hearing pupils' decoding success there are obvious challenges for deaf children who may not be able to hear all the sounds in speech. Phonological awareness in young deaf children has been demonstrated to correspond to both vocabulary and reading attainment as with hearing children (James et al., 2008), however it only accounted for 11% of the variance in reading achievement of deaf pupils tested across twenty five different studies (Mayberry et al., 2011). It is clear that knowledge of vocabulary development will have an impact on both the decoding of text and comprehending its meaning and deaf children are recognised as being highly likely to have a more limited vocabulary than their hearing peers (Kyle and Harris, 2006, Coppens et al., 2012). Understanding the rules of grammar is also important in determining meaning and the microstructure of text. This may cause challenges for deaf children whose grammatical understanding of spoken and text based language may be less well developed than for their hearing peers (Lederberg et al., 2013). Interestingly even those deaf children who achieve age appropriate language scores on measures of both vocabulary and syntax demonstrated less competent skills in aspects of story retelling (Boons et al., 2013c). This may indicate that their grasp of comprehension at a macrostructure level is also less well developed and that they demonstrate less competence in retaining themes and concepts across larger chunks of text and story.

A wide range of external factors may also influence a child's reading development and therefore influence the situational model in which the deeper understanding of the text occurs. Deaf children represent a heterogeneous group and it is clear that there are a huge number of factors that contribute to their learning experiences and indeed to their concept of a life world (Jarvis, 2005)(3.2). Parents' involvement in deaf children's early education programmes has been demonstrated to have a positive impact on early reading skills (Calderon, 2000). The complexity of contributory factors was illustrated by a study that engaged practitioners in exploring their understanding of deaf children's reading comprehension. It was noted that

all the practitioners brought “...*attention to the interaction between the individual and their environment*” (Swanwick et al., 2012, p115) highlighting the multifaceted nature of each child’s experience that contributes to their reading comprehension.

4.5 The impact of deafness on learning from the teaching assistants’ perspectives

The above discussion illustrates a number of potential consequences of deafness on a student’s learning within a mainstream secondary environment. By investigating the learning experiences of such students it may reveal if some of these issues are more problematic than others and provide an insight into how they manifest themselves within this particular learning environment. It may reveal expected and unexpected consequences as well as draw attention to other impacts of deafness that require further investigation. The data generated by the teaching assistants will therefore be used to provide an insight into the challenges that deaf students encounter within the classroom which may reveal pertinent information regarding the impact of deafness within the mainstream classroom learning environment. From this the final research question emerges:

RQ3 What challenges do deaf students experience within mainstream secondary classrooms from the teaching assistants’ perspective?

and the sub question:

RQ3i What do these challenges reveal regarding the learning experiences of deaf students within the mainstream secondary classroom?

4.6 Summary

The CLF (DL) was developed from Illeris’ CLM to provide a framework through which to compare a review of the literature and the data generated within the study. See figure 4-4. It was adapted to facilitate the focus on the Interaction dimension of leaning within the research literature. The rationale for identifying the issues raised by the literature with the different dimensions of the framework was provided.

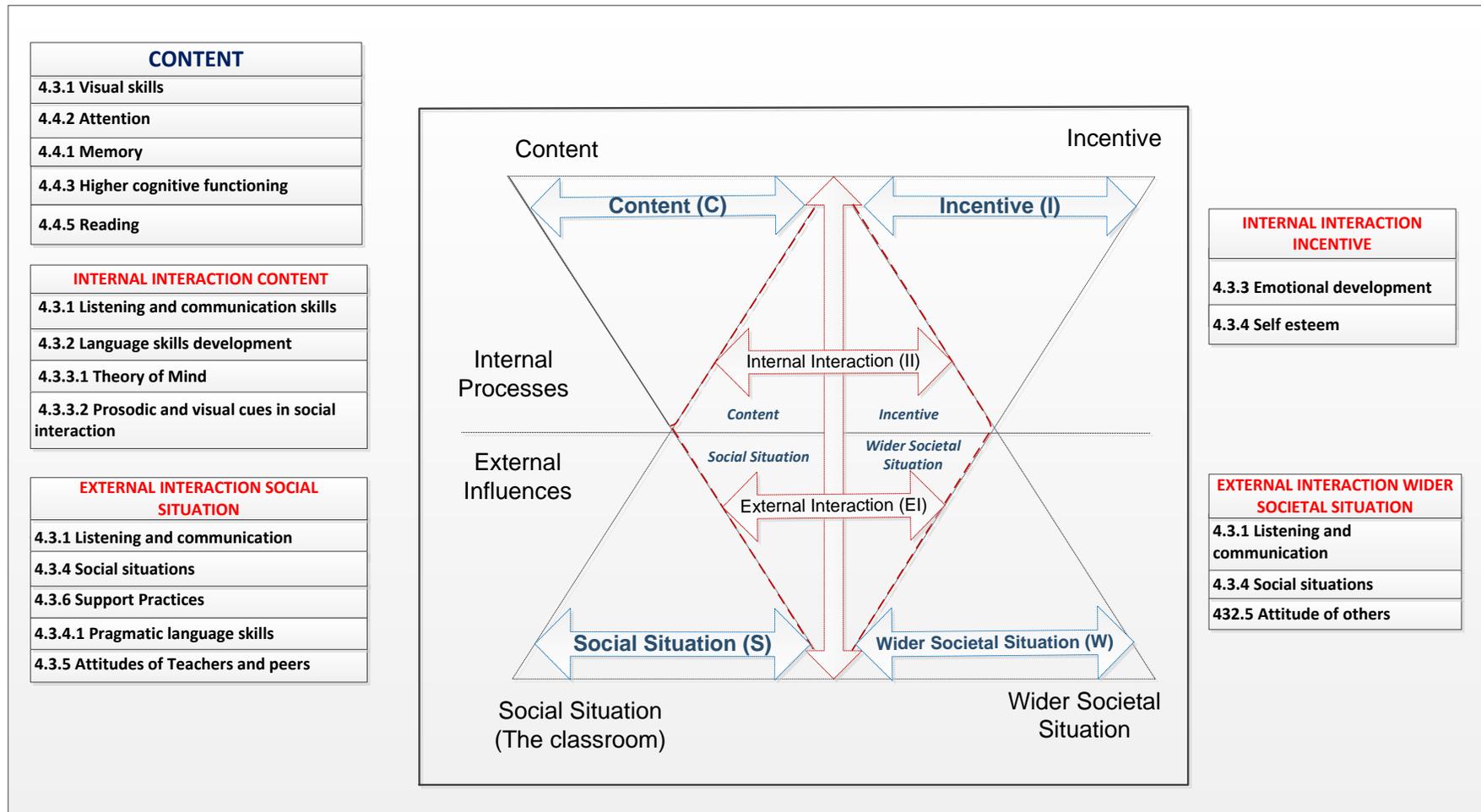


Figure 4-4 CLF (DL) and issues identified within the literature

Whilst acknowledging the dominance of language acquisition within deaf education research, this chapter has considered a limited number of language skills that are especially pertinent to the classroom environment. It then considered other attributes related to learning including visual skills, attention, higher cognitive functioning and memory. It reflected on research which indicates that for many deaf students a delay in the development of ToM appears to contribute to their slower social and emotional development as well as to their ability to determine what is expected of them by a teacher. Deaf students are frequently reported to have low levels of self-esteem and difficulty in managing social situations which impacts on their interactions within the classroom.

Consideration was then given to the evidence regarding external influences on deaf students' learning within the mainstream classroom, of which there is much less research. Consideration was given to the attitudes of teachers and peers to the deaf students as well as to support practices. The chapter then turned to the Social Situation that incorporates the attitude and decisions of 'others' in the classroom: others being the deaf students' peers, teachers, teaching assistants and other professionals who may be working within the classroom.

The previous three chapters have developed the rationale for the three research questions and provided links to current research within deaf education. They have identified that there is a clear need to further investigate deaf students' learning experiences in mainstream secondary classrooms to inform our understanding of why, as a cohort, they are failing to achieve the same academic attainment as their hearing peers. Teaching assistants have been identified as a potential source of valuable data that may not only provide further understanding of deaf students' learning experiences but may also help inform development of their own role.

The research is underpinned by a holistic perspective of learning and a framework has been developed through which existing research was integrated and critiqued in respect of the manner in which it informs our understanding of deaf students learning within the classroom environment. Three main research questions, and sub questions, have now been identified. The following chapter describes the development of the methodology and research design to generate the data that can fully address these questions.

Chapter 5

Methodology

5.1 Introduction

Consideration now turns to the development of the methodology. This chapter begins by presenting a description of the overall research design (5.2.1). The research methodology involved a three stage iterative, qualitative research cycle that engaged three different groups of participants: the Data, Consultancy and Reference Groups in a combination of focus group discussions, one to one interviews and a feedback questionnaire. Details of all the participants are included in section 5.2.1.

Three core principles were identified in Chapter 2 that would enable the teaching assistants to talk freely and develop their understanding of their experiences within mainstream secondary classrooms and to ensure the data accurately reflected the teaching assistants' perspectives. See (2.7). These principle identified that data generated needed to:

- reflect the complexity of the classroom environment (RQ1i)
- enable the participants to reflect on and develop their own understanding of their role (RQ1ii and RQ1iii)
- be interpreted in a manner that ensured the integrity of the teaching assistants' perspectives (RQ1iv and RQ1v)

The first two principles were addressed using two key strategies. A temporal dimension (5.3) was introduced to the design that involved two different methods to generate the data with the Data Group (5.4). This includes details of the pilot study and field trials undertaken. In order to ensure the trustworthiness of this data (5.5) a second group of teaching assistants were engaged in the research process: the Consultancy Group (5.5.1). Finally the Reference Group (5.5.2) was formed to provide additional information about the working environments of the individual teaching assistants.

The analytical process consisted of four incremental stages through which the core data was investigated. Each stage prepared the data for the subsequent stage and facilitated a detailed and in depth analysis. The four stages will be described with an explanation of how each contributed to the analysis in order to address the research questions and sub-questions (5.8).

5.2 An overview of the research design

5.2.1 Overview

Three different groups of participants were recruited for the study (table 5-1):

- The Data Group - six teaching assistants from the same local authority who currently support at least one deaf student each in a mainstream secondary school.
- The Consultancy Group - four teaching assistants from a second local authority who currently support at least one deaf student each in mainstream secondary school.
- The Reference Group –deaf students, mainstream teachers and teachers of the deaf who worked with the teaching assistants recruited to the Data Group

Data Group	Consultancy Group	Reference Group
6 teaching assistants	4 teaching assistants	7 deaf students
		5 mainstream teachers
		3 teachers of the deaf

Table 5-1 Participant recruitment

The Data and Consultancy Groups were engaged in three cycles of an iterative, qualitative research process illustrated in Figure 5-1. The first research cycle consisted of a Focus Group Discussion (F1) with the Data Group, followed by a Consultancy Group Meeting (C1). The second cycle of research consisted of 1-1 Interviews A with each member of the Data Group followed by a Focus Group Discussion (F2) with all the members. This was followed by the second Consultancy Group Meeting (C2). The third research cycle consisted of 6, 1-1 Interviews B with each member of the Data Group, the third Focus Group Discussion (F3) and Consultancy Group Meeting (C3). Finally all the teaching assistants from both the Focus and Consultancy Groups were asked to complete a feedback questionnaire. The Reference Group data was generated during the second and third cycles using short 1-1 semi structured interviews.

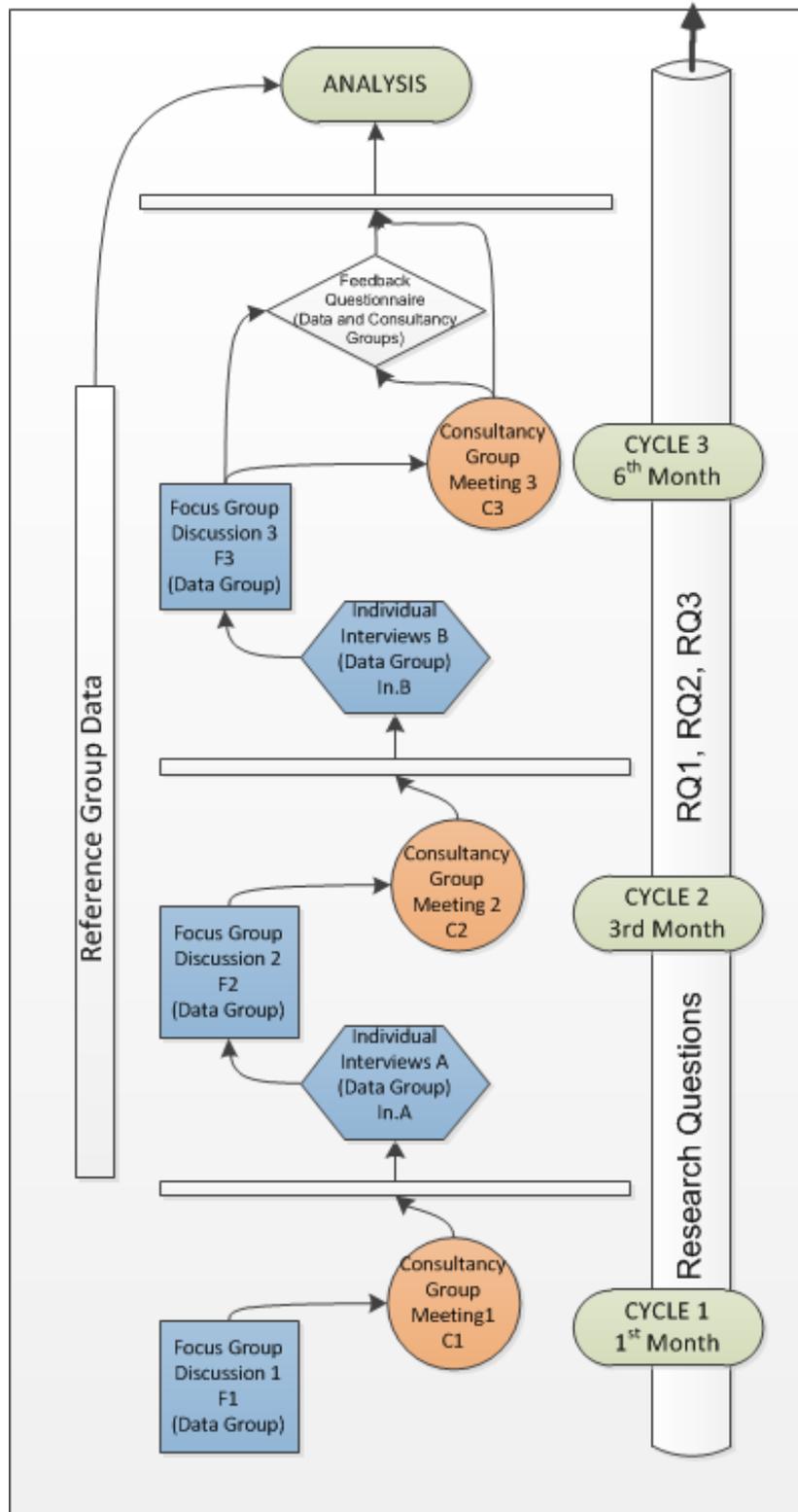


Figure 5-1 The research design

5.2.2 Participants

5.2.2.1 The Data Group

The six data group participants were all female and had a between 3 and 6 years of experience supporting deaf students in mainstream settings. Two of the teaching assistants had undertaken training and were qualified as Higher Level Teaching Assistants (HLTA). One of them was working as an HLTA the

other was not. All of the teaching assistants had attended ad hoc training particularly with regards to management of audiological equipment. They worked in four schools.

TA1 and TA4 worked at School 1 (SCH 1) a large co-educational, comprehensive, inner city school with 1320 pupils between 11 and 18. Six deaf students were supported within the mainstream, a further 6 deaf pupils attended the resource provision. The resource provision operated completely separately from the mainstream support for deaf students. TA2 worked at School 2 (SCH 2) a large co-educational, comprehensive, inner city school attended by 1200 students between 11 and 18. Six deaf students attended the school, there was no resource provision for deaf students. TA3 and TA6 worked at school 3 (SCH 3) a girls' comprehensive, inner city school with 840 students between 11 and 18. Thirteen deaf students were supported within the mainstream, the school also provided a resource provision for other deaf students. The resource provision operated separately from the mainstream provision although where resource and mainstream deaf students attended the same lesson shared support was provided by the resource base staff. TA5 worked at School 4 (SCH 4) a boys' comprehensive, inner city school with 620 students between 11 and 16. Two deaf students attended the school and there was no resource provision

5.2.2.2 The Consultancy Group

The four CG participants were all female and each had more than 3 years' experience supporting deaf pupils in mainstream schools. All the schools were coeducational, large comprehensive schools of between 1200 and 1730 pupils. Two of the schools had sixth form provision and two had resource provision for deaf pupils. Three of the four teaching assistants supported pupils in the mainstream provision, the other supported deaf students who were registered as part of the resource provision. Although this particular teaching assistant currently supported pupils within a resourced provision she had extensive previous and recent experience supporting pupils within mainstream provision. As a consequence of challenges in recruitment to the study (see 5.2.3) a decision was made to include her as part of the Consultancy Group as she would be able to bring her previous knowledge and understanding to the study.

A summary of this demographic information is contained in Table 5.2.

Teaching Assistant	Male/ Female	Relevant qualifications	Years' experience with deaf students	School *Resource Provision for deaf students	Boys Girls Mixed	Total number of students on role	Number of deaf students supported by TA
DATA GROUP							
TA1	F	--	3	SCH 1*	MIXED	1320	13
TA2	F	--	6	SCH 2	MIXED	1200	6
TA3	F	HLTA	4	SCH 3*	GIRLS	840	6
TA4	F	HLTA **	4	SCH1 *	MIXED	1320	13
TA5	F	--	5	SCH 4	BOYS	620	6
TA6	F	--	5	SCH 3*	GIRLS	840	7
CONSULTANCY GROUP							
TA7	F	--	3+	SCH5	MIXED	1440	-
TA8	F	--	3+	SCH5	MIXED	1440	-
TA9	F	--	3+	SCH6	MIXED	1730	-
TA10	F	--	3+	SCH7*	MIXED	1200	-

Table 5-2 Details of the teaching assistant participants

HLTA - Higher Level Teaching Assistant

HLTA** not working in a HLTA role

5.2.2.3 The Reference Group

The reference group consisted of 5 teachers; 7 deaf pupils and 3 teachers of the deaf. The mainstream teachers included 2 maths teachers, 2 English teachers and a drama teacher. One maths teacher was described as a senior teacher by the teaching assistant.

The deaf pupils consisted of :1 x Y7 pupil; 1 x Y8 pupil; 2 x Y9 and 3 x Y10 pupils including 3 girls and 4 boys. Two of the pupils were described as having a mild hearing loss; 1 a moderate loss; 1 a severe loss and 3 a profound loss. (See glossary for explanation of terms). Two of the pupils were also described as having additional learning needs. See table (5.3).

REFERENCE GROUP STUDENTS		
Student code	Year Group	Level of Deafness
S-TA1	Y9	Mild
S-TA2	Y10	Moderate
S-TA3	Y7	Profound
S-TA4	Y9	Severe
S-TA5	Y8	Profound
S1-TA6	Y10	Profound
S2-TA6	Y9	Mild

Table 5-3 Demographic information of the deaf students

The seven pupils were under the supervision of three fully qualified teachers of the deaf one of whom visited two of the schools involved in the research.

Table 5.4 provides an overview of the teaching assistant, student and ToD participants' relationships. It includes the coding for the teachers, students and teachers of the deaf associated with the members of the data group used within the findings and discussion chapter

REFERENCE GROUP Participant Codes		
Teacher	Student	Teacher of the deaf
T-TA1	S-TA1	ToD 1
T-TA2	S-TA2	ToD 2
T-TA3	S-TA3	ToD 3
T-TA4	S-TA4	ToD 1
T-TA5	S-TA5	ToD 1
T-TA6	S1&S2-TA6	ToD 3

Table 5-4 Reference group: codes indicating the links between teaching assistants, students and ToD

5.3 A temporal dimension for data generation: An iterative, qualitative research approach

Mainstream classrooms are complex social environments in which at any one point in time there is a plethora of influences on each individual and on the interactions that occur between them. Additionally as members of the classroom community progress throughout their school based education they will change in response to their experiences and developing relationships and this will influence subsequent pedagogical practices and learning. A classroom is a continually changing environment and data collected at just one point in time would provide a very specific and limited reflection of it. To provide a more comprehensive data set that could reflect changes over time I decided to collect data from different stages within one school year from the same group of participants. In addition this provided the opportunity for the participants to reflect on their involvement in the research process between meetings and potentially illustrate changes in their confidence, contributions and understanding of their role throughout the period in which they contributed to the study.

There is scant research available regarding teaching assistants' perspectives of their own role which could be used to guide the discussion agendas. In order to produce a sufficiently detailed data set to address my research questions it was necessary to reflect on the discussion content and identify areas for consideration in subsequent cycles. I therefore considered it important to involve the participants in shaping the agenda of the second

and third discussions. Pring (2006), reflecting on the application of research within education asserts that the knowledge generated within research should be truly reflective of the participants and not filtered through a researcher's own perspectives. Researchers have a responsibility to give careful consideration to the manner in which knowledge is obtained and how this may affect its subsequent application. He strongly advocates, therefore, that practitioners should be fully engaged in the research process to generate ownership and acceptance of the findings. Whilst this reference is made with regard to researching teachers' practice it seems highly appropriate that in investigating teaching assistant practice, teaching assistants should be fully engaged within the research. This would provide a level of ownership of the resulting knowledge that could prove beneficial in its potential future application.

A developed and widely used methodology within educational research that embodies both a temporal structure and participatory involvement is an action research approach. It also provides an emancipatory opportunity for participants to develop a truly representative collective perspective (Lehtomäki et al., 2014, Wadsworth, 2001, Stenhouse, 1981). An action research methodology involves individuals directly within the research process to facilitate the development of knowledge and understanding through a cycle of practice, implementation, reflection and change. It has been employed by teachers when researching their own settings (Cohen et al., 2011) including exploring the impact of new technologies within the classroom (Watts et al., 2013, Tunney and Ryan, 2012); investigating early years education (Boon, 2014, Boyle and Petriwskyj, 2014) and more closely aligned with this this study developing teacher of the deaf practice (Carter and Swanwick, 2012) and investigating the sensitive topic of teaching assistant status within schools (Watson et al., 2013).

In order to integrate teaching assistants within the formation of the research process an iterative research process was adopted, loosely based within an action research approach. The initial problem was not identified by the practitioners involved in the research, nor did they determine the outcome of each cycle or direct the succeeding cycle as would be suggested by an action research approach. Rather the iterative cycles of qualitative research were informed by the participants' responses within the previous cycle which shaped the nature of the data generated in the subsequent stages. This enabled the teaching assistants to be involved in the process and provided

and influence both the direction and outcomes facilitating an emancipatory approach. The following section will discuss the methods chosen to form the research cycles.

5.4 Data collection methods

Two different approaches to the data generation were employed to provide two different perspectives of supporting deaf learners in mainstream classrooms from the same group of participants. This provided a detailed data set. A focus group (5.4.1) was adopted to realise a collective perspective whilst individual interviews (5.4.2) were designed to allow the teaching assistants to comment on their own specific practice. The focus group provided the opportunity to grow and develop ideas with other participants the knowledge and insights which were of a very different nature to those produced from an individual interviews (Kamberelis and Dimitriadis, 2005).

5.4.1 Focus group discussions

A focus group was selected to provide a means to realise the teaching assistants' perspectives of their daily interactions within the complexity of the classroom environment, through reflection and discussion with colleagues. A focus group is a complex and versatile tool centred on a group of people engaged in a dynamic conversation, that has the potential to produce extensive and detailed data direct from the participants (Stewart and Shamdasani, 1990). The fundamental process involved is generating data as a group, as a consequence of the interactions that occur between the members who will share a common interest (Bender and Ewbank, 1994) and facilitate the generation of a specific rich form of data (Rabiee, 2004). Previous research has successfully used focus groups to investigate teaching assistants' perspectives on different aspects of their role, (Morris, 2010, Mackenzie, 2011, Butt and Lowe, 2012).

A focus group discussion, however, may take a number of different forms and be influenced by a wide number of variables including: the number of participants; the nature of the agenda devised to guide the discussion and crucially the role of the researcher or moderator in facilitating the discourse. Whilst it is impossible to predetermine the exact content of the discussion that may emerge during a focus group it is important to consider the wide

range of possible outcomes and whether or not they would be appropriate for the research questions, in other words to ensure the data is trustworthy.

A pilot study was undertaken to determine the preparation required to shape the group agenda and to reflect on the nature of the meeting required to allow the discussion to be free flowing and centred on the focus of the study. Importantly it provided the opportunity to consider the protocols required to establish the trustworthiness of the resulting data.

5.4.1.1 The Pilot Study

The pilot study was undertaken in a single rural primary school and involved a total of six teaching assistants engaged in two equal sized group discussions comprising three teaching assistants and the researcher. A primary school was selected to be the focus of the study for two pragmatic reasons. The researcher had personal contact with a number of local primary schools, the head teachers of which had expressed interest in the study and a willingness to support the research, and the researcher was very familiar with the primary environment. The research question was designed to explore the appropriateness of the data generation method:

“What factors need to be considered when developing the use of a focus group methodology to consider the role of teaching assistants supporting children with special educational needs and disability (SEND) in mainstream schools?”

The teaching assistants involved in the pilot study all worked with and supported pupils who had Statements of Special Educational Needs none of whom were deaf. This was to avoid the possibility of becoming engaged with data that may be similar to that collected in the main study and potentially detract from the methodological focus of the pilot study. However, as the teaching assistants were all engaged in supporting specific children with SEN, as their colleagues in the main study would be, certain generic themes in respect of all SEND teaching assistant roles may have appeared and usefully informed the developing agenda. It also provided the researcher with experience of moderating a group of professionals working in a similar capacity to those in the main study producing information to facilitate effective future data generation.

The two focus group discussions undertaken as part of the pilot study resulted in over two hours of detailed and rich conversation as well as valuable insight into how to manage and mediate such a conversation. The data was recorded using audio equipment transcribed verbatim and field

notes were compiled immediately after each discussion. A video camera was used to record the researcher exclusively to enable the role in mediating the group to be carefully evaluated to inform future practice.

The teaching assistants willingly explored their roles and responsibilities as well as the issues and challenges they face. Informal feedback from a member of the teaching staff suggested that the teaching assistants had been left "*buzzing*" and that they had found the experience extremely valuable. Their confidence had been boosted by the opportunity to share their views and for those views to have been valued. Each group had consisted of three teaching assistants which provided ample opportunity for each member to contribute although some members were more verbose than others. The latter indicated an aspect that would need to be managed during future discussions. On reflection the discussion may have been enhanced by the addition of a few more members to extend the range of the conversation and if managed appropriately limit the opportunity for one or two participants to dominate (Krueger and Casey, 2009). It was decided, therefore to recruit six teaching assistants to form the Data Group which would allow for an element of contingency should one or two drop out during the research process whilst still retaining a group large enough to generate sufficiently detailed data to address the research question.

Two different approaches to establishing the conversation agenda were trialled during the pilot study. One involved an activity designed to shape the discussion, the other did not. The activity allowed the teaching assistants to consider the topics they would like to explore during the group conversation prior to the start of the discussion. This process appeared to make no impact on the subsequent discussion and consequently it was decided that in the main study the teaching assistants would engage immediately in the main discussion.

Whilst a focus group could provide appropriate opportunity for the generation of the teaching assistant perspective, confidentiality needed to be considered in order to ensure the best opportunity for a candid and open discussion amongst the participants. The data collection process needed to comply with the expected protocols of ensuring the anonymity of the contributions within any reports as well guaranteeing the data was securely stored and subsequently destroyed on completion of the project (British Educational Research Association, 2011). However, the researcher had little control regarding participants sharing their knowledge of the focus group

data after the event which had the potential to limit the information the participants would be willing to share or discuss that could be extremely pertinent to the study. Consequently, prior to the commencement of each discussion, the importance of confidentiality was discussed and participants were asked to agree to this protocol. The only exception to this rule would occur if during the discourse it became apparent that there may be a safeguarding issue affecting a child that the participant worked with. In such an eventuality it was stated that this would be reported. Whilst all the participants indicated that they would be willing to introduce and discuss issues and challenges and at no time during the discussions did any member seem unwilling to contribute or endeavoured to retract a statement, it is impossible to know whether important and sensitive issues were just not raised.

The literature cited along with the pilot study indicated that focus group discussions can, if appropriately managed, provide a non-judgemental and comfortable forum in which teaching assistants may discuss their role and daily practice and was therefore, selected to provide core data for the study. Each focus group discussion would be audio recorded and the discussion transcribed verbatim with field notes recorded immediately after the event.

Six teaching assistants were recruited to facilitate a broad and detailed conversation, that when managed appropriately limited the opportunity for individual participants to dominate (Krueger and Casey, 2009). This number also provided an element of contingency should one or two participants drop out during the research process. The pilot study indicated four participants would generate a detailed and varied discussion. This group of participants formed the Data Group. The pilot study revealed the importance of ensuring the teaching assistants felt sufficiently protected if they were to fully express their opinions and that the process should not be perceived to be judgemental. It was important that the members of the group were also prepared to treat the content of the discussions as confidential. This was addressed during the recruitment process and at the start of each focus group meeting.

The initial focus group agenda was designed to elicit basic demographic information (Table 5-5) and to encourage the participants to describe and reflect on their own and each other's experiences supporting deaf students in mainstream secondary classrooms. This was structured using three questions (Table 5-6).

1. How long have you worked as a teaching assistant?
2. How long have you worked in your current post?
3. How long have you been working with deaf students?
4. How many deaf students do you currently work with?
5. What training have you received in relation to your role?

Table 5-5 Demographic questions

1. What is the purpose of your role within the classroom?
2. What things do you need to be aware of when supporting a deaf pupil?
3. If you were mentoring a TA new to the role, what are the key issues you would want to ensure they understood within the first few months?

Table 5-6 Questions- Focus group discussion (F1)

The agenda for the subsequent focus group discussions emerged from the previous research cycles and are presented in Chapter 6.

5.4.2 Individual interviews

The second method employed, to provide a different perspective of the classroom environment from the same group of participants, was individual interviews. These allowed the teaching assistants to reflect on examples of their own work without reference to colleagues but rather in respect to the specific circumstances of a lesson. To achieve this I recorded a short video of the teaching assistant working with a deaf student within a mainstream classroom immediately before the interview and used this as an artefact to stimulate the discussion. We watched the video together and the teaching assistant was asked to comment on any aspect of the video that illustrated their support for the deaf student's learning. It provided insight into their working environment and their understanding of learning and support practices. The participants also used this opportunity to discuss issues raised during previous meetings as a result of subsequent reflection and to

contribute opinions they did not feel comfortable sharing with their colleagues.

The individual interviews were conducted informally to enable the participant to shape the discussion. I was aware I needed to take care to limit my own impact on the data and to ensure the individuals were able to freely express their opinions and explain their thinking and motivations (Drever, 1995). Field trials were, therefore, undertaken to develop a method of video recording and interview techniques that would not be perceived as judgemental but rather as a positive process.

5.4.2.1 Video Field Trials

The process of being video recorded whilst working with pupils in a classroom is likely to be perceived as an uncomfortable process and therefore not facilitate the realisation of the teaching assistants' perspectives. Consequently a field trial was undertaken to determine if it would be possible to obtain a video artefact in a manner that would reduce as far as possible any potential anxiety during its production.

Four special educational needs teaching assistants working in a second primary school agreed to be videoed working in the classroom and to discuss their session in a subsequent one to one interview. They all agreed that prior to the initial session they had been nervous but found that the process was in fact positive and valuable. The video had provided a useful source of information and produced areas of discussion all the teaching assistants agreed they would not have thought to discuss without the use of the recording. They also indicated that by allowing them to select which aspects of the recorded practice to discuss and which to ignore they felt in control. Consequently all the pilot study teaching assistants were willing to be video recorded a second time approximately six weeks later and described the subsequent interviews as more relaxed and productive. It was decided therefore that an opportunity to be video recorded and have a practice interview prior to the main data generation process was likely to be beneficial for the Data Group participants. It was offered to all participants and five of the six took it. These practice sessions also allowed for refinement of the recording process in capturing the interactions between the teaching assistant and the pupil.

As the pilot study and field trials had all taken place in primary school settings, a final field trial was undertaken in a secondary school in which

there was a resource base for deaf pupils. Two teaching assistant and two pupils agreed to be recorded and the teaching assistants were subsequently interviewed. This provided further opportunity to ensure that the decisions made regarding the nature and format of the one to one interviews would provide suitable opportunity for the teaching assistants working with deaf children in mainstream settings to provide a second perspective of their role. The final field trial was successful with both teaching assistant participants commenting they had found the video and discussion around it very valuable.

Together it was considered that the focus group discussion and one to one interviews would provide two significantly different perspectives of the teaching assistant role from the same participants. It was anticipated that this would provide greater opportunity to generate data that would reflect the complex nature of a classroom than either method would individually. One to one semi structured interviews, incorporating a short video artefact of the teaching assistant working within a mainstream classroom were therefore incorporated into the methodological design. The interviews were audio recorded and the discussion transcribed verbatim. Field notes were also compiled immediately after each interview.

Different approaches to recording in the classroom were considered and discussed with participants during the field trials in order to refine the process. As a result the vide camera was placed in the classroom away from the teaching assistant and student and a sensitive multidirectional microphone was positioned close to the couple. I operated the camera to ensure the student and teaching assistant remained in frame. Depending on the nature of the lesson short recordings were made throughout the session to capture different activities. The teaching assistant subsequently selected which recordings to view.

Figure 5-2 illustrates the research design involving the Data Group across the three research cycles and the different methods of data collection involved. The focus group discussions and individual interviews together contributed to the core data set. It realised the teaching assistants' perspectives through two different methods, over a six month period providing greater breadth to the data than would have been achieved through a single approach.

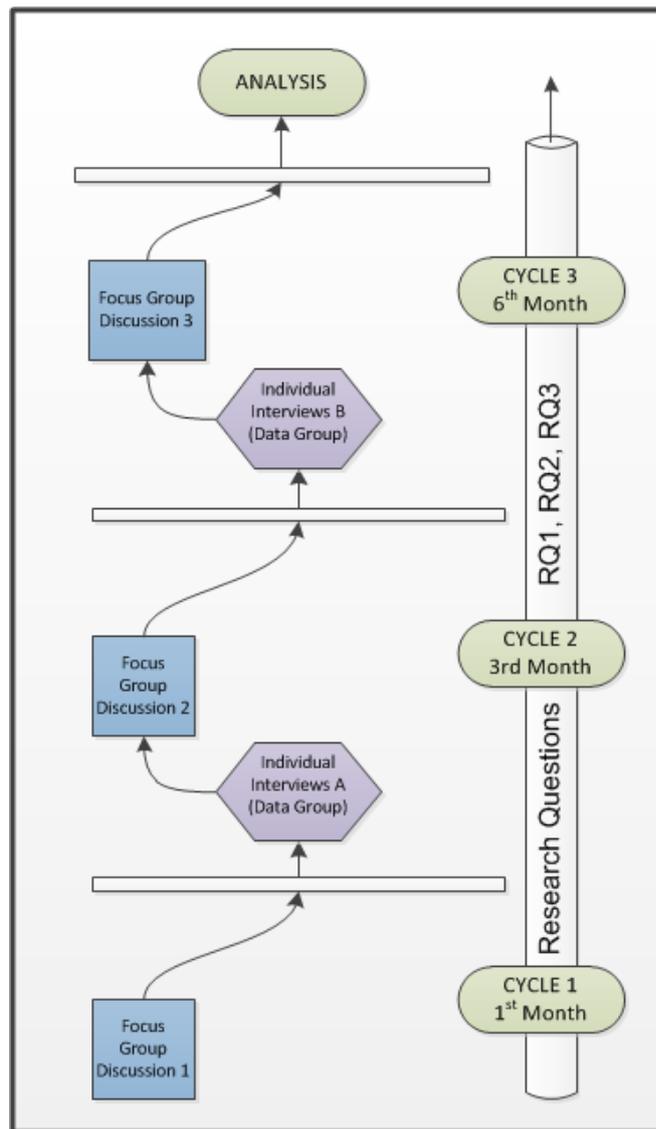


Figure 5-2 Core data generation process for the Data Group

5.5 Strategies to ensure the credibility of the of the data in realising the teaching assistants' perspectives

As a researcher with many years' experience in the field of deaf education, both as a teacher of the deaf and a parent to two deaf children, I recognised that I brought a particular perspective to the research and the interpretation of the data. Qualitative research within education can never be completely impartial (Cohen et al., 2011) as education is a dominant aspect of our own formative experiences. It was important to the aims and research questions that the teaching assistants' perspectives remained central and trustworthy throughout the data generation. To achieve this, the design incorporated a second group of four teaching assistants, the Consultancy Group to

reinforce the credibility of the interpretation of the data through further focus group discussions.

5.5.1 The Consultancy Group

The Consultancy Group consisted of four teaching assistants all of whom supported deaf students in mainstream secondary schools. This number of participants ensured that their collective view would be dominant in a group that included me even if one or two members were unable to attend a meeting.

Immediately following each Focus Group meeting, F1, F2, F3, and before the subsequent meeting, members of the Consultancy Group were provided with:

- A verbatim transcript of the previous Focus Group Discussion with all names and identification details removed
- An initial thematic analysis and reflection of the data

They were asked to read through both documents and note down any aspects they would like to discuss particularly with regard to the initial analysis and reflections. The Consultancy Group meetings were audio recorded; detailed minutes were compiled and subsequently distributed to the members of the group. The minutes were agreed and ratified at the subsequent meeting.

To retain anonymity throughout the process the Consultancy Group participants worked within a different part of the country to those engaged within the Data Group, approximately 120 miles apart. This greatly limited the possibility of members of either group meeting each other, particularly in a professional capacity. The issue of confidentiality and anonymity raised at the start of each of the Data Group Focus Discussions were also applied to the format of the Consultancy Group Meetings.

The use of practitioner consultants was a strategy implemented successfully by Russell (2003). This research investigated parents' perspectives of education provision for disabled children. As the parent of a disabled child she engaged other parents as consultants in part to ensure that the data presented a view that was not over influenced by her own experiences.

The Consultancy Group were not asked to review my interpretation of the teaching assistants' individual interview data. The comments and views presented during the one to one interviews were more personal and related to the specific working environments of the individuals than the data

generated in the focus group discussions. Members of the Consultancy Group would have insufficient knowledge of those environments to be able to determine if the discussions were accurate representations. Therefore a final group of participants, The Reference Group, were recruited to reinforce the trustworthiness of the individual interview data.

5.5.2 The Reference Group

The Reference Group was established to gain the views of deaf students, teachers and teachers of the deaf who worked alongside the teaching assistant members of the Data Group of their shared working context. This provided triangulation particularly of the interview data, but also the complete core data set.

The Reference Group participants were engaged in short semi structured interviews of approximately 15 minutes each which provided the opportunity for them to reflect on the nature and purpose of the teaching assistant role and describe some of the ways in which the teaching assistants worked. Interviews with the students and mainstream teachers were held during the same session as either Individual Interview A or Interview B in the school. The interviews with the teachers of the deaf were held at mutually convenient times away from the school premises. This enabled the participants to speak candidly about the educational settings.

The questions presented to all the individuals aimed to elicit discussion of the same aspects of their experience working with the teaching assistant, whilst recognising the different nature of the relationships represented see Tables 5.7, 5.8 and 5.9. Reassurance of anonymity and confidentiality were provided during all the interviews.

- | |
|---|
| <ol style="list-style-type: none">1. What do you understand is the purpose of the TA supporting a deaf student in your class?2. How are you involved in planning the support?3. How is the effectiveness of the support monitored and evaluated?4. What sort of strategies might the TA use in your lessons? |
|---|

Table 5-7 Questions-mainstream teachers

1. When you have a TA with you in the classroom, why do you think they are there?
2. Are you able to help plan when you have support in class and what the support might be?
3. Do you have a way of telling the teacher or TA what has been helpful and what has not?
4. What sort of things might the TA do in a lesson to help you?

Table 5-8 Questions – deaf students

1. What is the purpose of the TA within a mainstream classroom when supporting a deaf pupil?
2. How is the support planned? What input do you have in that planning?
3. How is the effectiveness of the support monitored and evaluated? What input do you have in the evaluation process?
4. What sort of strategies would you expect a TA to be using within a mainstream lesson?

Table 5-9 Questions - teachers of the deaf

5.5.3 Feedback questionnaire

The research process required commitment and a significant contribution from the Focus and Consultancy Group members. Their reflections on involvement within the project, through the use of a feedback questionnaire, would provide valuable information particularly in terms of how the process influenced their understanding of learning. A short feedback questionnaire was therefore developed to provide an opportunity for the participants to reflect on the impact of the research. The questionnaire was based on the three principles identified by Kamberelis and Dimitriadis (2005): pedagogy, politics and enquiry that they consider at the heart of focus group discussions, a central method employed within the research for both groups. The questionnaire posed three open ended questions based on the three principles along with the opportunity to add any other thoughts or ideas, see Table 5-10.

1	As a result of your involvement within this research project: Have you learnt anything new about your role, if so what?
2	Do you think you have developed a better understanding of your role as a TA supporting a deaf child in a mainstream school? Please describe how your understanding has developed.
3	Do feel more confident in your role as a TA? If you do, how might you be able to use your increased confidence to influence or change your working practice?
4	Is there anything else that you would like to comment on with regards to the project?

Table 5-10 Feedback Questionnaire

The feedback questionnaires provided the final component of the core data set that included the transcripts from the Data Group focus group meetings, validated by the Consultancy Group, and the individual interviews. The data collected from the Reference Group provided triangulation of the Core Data. Table 5.11 provides summary of the provenance and nature of the data generated.

Core Data		Reference Data
Data Group	Consultancy Group	Reference Group
Focus Group discussions' transcripts	<i>(Review of Focus Group transcripts)</i>	Semi-structured interview transcripts from Teachers, Students and Teachers of the Deaf
Individual interview transcripts		
Feedback questionnaires responses		

Table 5-11 Provenance and nature of the data generated

5.6 Ethical considerations

Ethical approval for the research was sought from and provided by AREA Faculty Research Ethics Committee, University of Leeds. Ethical approval,

from the same body was granted prior to the pilot study being undertaken. Both letters of approval are contained in Appendices B.1 and B.2.

A number of different ethical issues needed to be addressed such as methods of recruitment; safe storage of data; ensuring the anonymity of participants and details of these are included on the application form and supplementary information which is contained in Appendices C.1 and C.2

A key ethical issues arising from this research design was the recruitment of deaf students under the age of 16. Care always needs to be taken when recruiting children to a research study in order that they do not feel under any pressure to participate. This was particularly pertinent for this study as the students were deaf and may not fully appreciate the possible implications of being involved. As they would also be part of a group of participants from a single school, including the teaching assistant, mainstream teacher and associated teacher of the deaf, they may feel added pressure to take part. Such perceived pressure may not be direct but may be anticipated by the students who need to maintain a good working relationship with school staff members. In order to address these issues a number of mechanisms were put in place including ensuring all documentation was adapted to meet the language skills of the student; in particular the information sheet and consent form. Examples of a standard and modified version of each are available in Appendix D. Permission was obtained from the student, the student's parents and the head teacher or Special Educational Needs Coordinator of the school the student attended. Prior to each stage of the study in which the students were involved i.e. the 1-1 interview and two in class sessions being video recorded working with the teaching assistant, time was taken to explain what would be happening and permission again acquired verbally. One student did withdraw his consent to be video recorded on the second occasion.

5.7 Summary of the research design

The data collection process extended over a six month period contained within one academic year. Tables 5.11 and 5.12 bring together the research questions and research design to illustrate the process through which the data was generated to address each question. Research question RQ1, is addressed by the research design. RQ2 and RQ3 were investigated using the core data and were triangulated with the Reference Group data.

RESEARCH QUESTIONS	SUB QUESTIONS	DATA GENERATION METHOD	TIME FRAME	PARTICIPANT GROUP
RQ1 How can the teaching assistants' perspectives be realised?	<p>RQ1si How might the data generated reflect the complexity of the classroom learning environment?</p> <p>RQ1sii What method will facilitate the realisation of the teaching assistants' perspectives of deaf students' learning experiences?</p> <p>RQ1iii What impact does teaching assistants' involvement in researching their own practices have on their understanding of learning?</p> <p>RQ1iv How might, the integrity of the teaching assistants' perspectives be sustained?</p>	Addressed through the RESEARCH DESIGN including the use of an iterative, qualitative research cycles, different methods of data generation, the Consultancy Group and the Reference Group		
	<p>RQ1v How do teaching assistants' perspectives of their working environment compare with that of the other educational professionals and deaf students within the same context?</p>	<p>Semi structured one to one interviews</p>	<p>3-6</p>	<p>Reference Group 6 x mainstream teachers 7 x students 3 x Teachers of the Deaf (associated with Data Group)</p>

Table 5-12 RQ1and sub questions addressed by the research design

RESEARCH QUESTIONS	SUB QUESTIONS	DATA GENERATION METHOD A iterative, qualitative research approach	TIME (months)	PARTICIPANT GROUP
<p>RQ2 What language and terminology do teaching assistants use to talk about learning?</p> <p>RQ3 What challenges do deaf students experience within mainstream secondary classrooms from the teaching assistants' perspectives?</p>	<p>RQ2i What might be deduced about teaching assistants' understanding of learning in the classroom?</p>	<p>Cycle 1 Focus Group Discussion (F1) Consultancy Group Meeting (C1) Approval of meeting records</p>	<p>0</p>	<p>Focus Group 6 x teaching assistants who support deaf children in mainstream secondary settings</p>
	<p>RQ3i What do these challenges reveal regarding the learning experiences of deaf students within the mainstream secondary classroom?</p>	<p>Cycle 2 Individual Interviews (Interviews A) Focus Group Discussions (F2) Consultancy Group meetings (C2) Approval of meeting records</p>	<p>3</p>	<p>and Consultancy Group 4 x teaching assistants who support deaf children in mainstream secondary settings</p>
		<p>Cycle 3 Individual Interviews (Interviews B) Focus Group Discussions (F3) Consultancy Group meetings (C3) Approval of meeting records Feedback Questionnaire</p>	<p>6</p>	

Table 5-13 RQ2 and RQ3 and sub questions addressed by the research design

5.8 The analytical process

The analytical process of the core data generated through the focus group discussions and one to one interviews was designed to reveal how teaching assistants talk about learning, RQ2, and how they describe the issues that the deaf students experience in mainstream classrooms, RQ3. It consisted of four incremental stages each of which prepared the data for the subsequent stage. The first stage occurred during the three research cycles to assist in ensuring the data generated through the focus group discussions, included discussion about learning experiences within the mainstream classroom (5.8.1) and was representative of the teaching assistants' perspectives. On completion of the research cycles the second stage of the analysis was implemented, this involved identifying the relevant data from within the core data set (Table 5.9) in respect of RQ2 and RQ3 (5.8.2). The data identified was then coded using a coding strategy based on the Complex Learning Framework, adapted for Deaf Learners CLF (DL), stage 3,(5.8.3). Finally the six coded categories were analysed thematically using Rabiee's framework (2004) that was specifically developed to analyse focus group data; themes were identified and subsequently grouped and condensed under second order themes (5.8.4.). Consideration was then given to the analysis of the feedback questionnaire data (5.8.5) and the data provided by the Reference Group (5.8.6) through thematic analysis.

5.8.1 Stage 1: The research cycles

The data resulting from F1, F2 and F3 were analysed thematically using Rabiee's Framework (2004). The themes identified were incorporated into reports that were presented to the Consultancy Group members with a transcript of the corresponding meeting. The Consultancy Group were asked to read the report and the transcript and then discuss the content of the report suggesting alterations they felt appropriate to ensure the teaching assistants' perspectives was accurately represented. These were reported as minutes of the meeting and ratified at the subsequent meeting.

5.8.2 Stage 2: Identifying the relevant data for analysis from the transcripts

The second stage of the analysis involved identifying the relevant data from within the Data Group transcripts: F1, F2, F3, Interviews A and Interviews B in which the participants were a) talking about learning and b) describing the

challenges deaf students experience within the mainstream classroom environment. These categories relate directly to RQ2 and RQ3 (Table 5-11). The resulting data, combined with the questionnaire data, was also used to address the third research question that considered the impact of the research on the participants' understanding of learning. (Table 5-11)

During all the cycles of the research the participants engaged in dynamic conversations that were designed to allow the participants to introduce and develop their own thoughts and ideas. I engaged directly with the group to ensure the topics discussed remained centred on the questions or topics outlined in the agenda. In order to ensure that the process facilitated a dynamic conversation I only intervened, however, when either the discussion had moved away from the main topic for some time or in order to ensure the full agenda was covered. Invariably the conversations covered a wide range of issues some of which considered aspects of the teaching assistant experiences that were not pertinent to the current investigation and research questions. Consequently it was necessary to identify the relevant data for this investigation from the data set.

A coding strategy, see Code Book (Appendix E.1), was developed to ensure the appropriate data was identified and allocated into two sets related to RQ2 and RQ3 respectively:

- Talking about learning
- Challenges and issues for deaf students

Data identified as belonging to both categories was allocated to both data sets.

A second researcher was engaged to analyse a sample of the data independently. Subsequent discussion regarding differences in interpretation of the data enabled agreement to be reached between the two researchers regarding the allocation of data to the data categories.

5.8.3 Stage 3: Coding the data with reference to CLF (DL)

A coding strategy was developed from the CLF (DL) Figure 5-3, (see Code Book (Appendix E:2) that facilitated the data being associated with the six different facets of learning, identified in the framework: Content, Incentive, Internal Interaction, External Interaction, Social Situation (the classroom) and Wider Societal Situation.

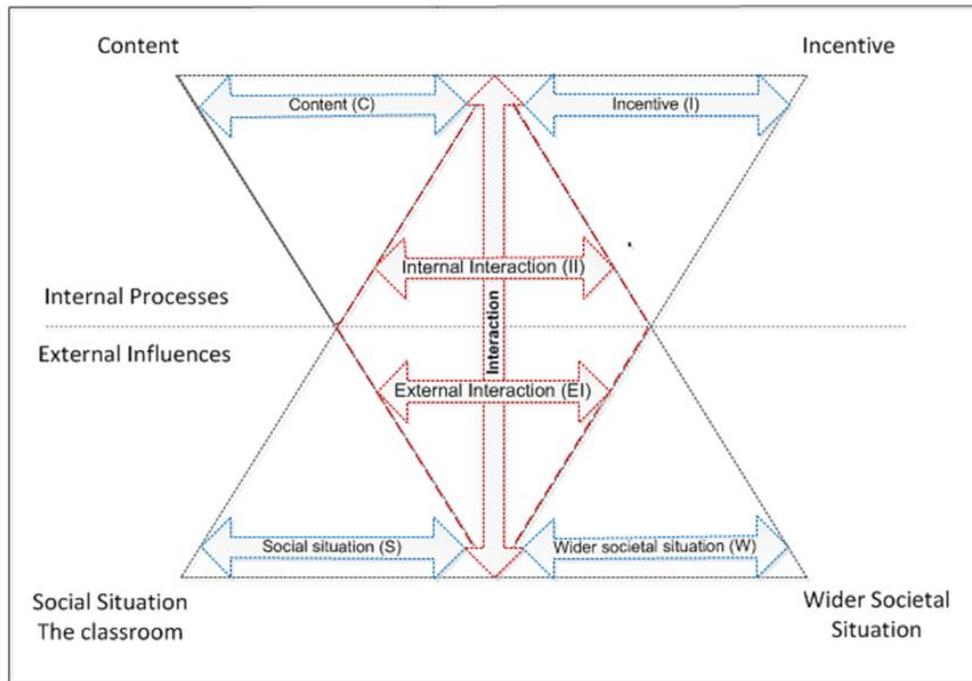


Figure 5-3 CLF(DL)

The data was coded by myself and an experienced senior secondary practitioner who independently coded F2, 1x Interview A and 1x interview B. Subsequent discussion regarding differences in interpretation of the data enabled a consensus to be reached, between myself and the practitioner, that was not solely based within the field of deafness but rather within a combined perspective of deafness within mainstream secondary education. This stage provided the initial exposure of the layers of complexity that are present within the classroom environment for deaf learners in respect of the CLF(DL).

5.8.4 Stage 4: Thematic analysis

The final stage of the analysis involved locating themes within each of the six coded categories in order to reveal the more detailed layers of influences contained within the data. This was achieved by using an analytical approach developed by Rabiee (2004) for use with data generated through focus group discussion. It advocates consideration of the data using eight criteria: words; context; internal consistency; frequency; intensity of comments; specificity of responses; extensiveness and the big picture. It was applied to the combined data from the focus group discussions and individual interviews with Data Group participants. Both methods had produced rich data in the form of dynamic discussion that allowed for the participant(s) to shape the conversation. Whilst one involved up to seven

participants and the other just two this was not considered to affect the resulting interpretation but rather to present a comprehensive representation of the participants' perspectives. The analytical criterion was used to identify first order themes within each coded category that were subsequently linked and grouped into theoretically related sets or second order themes within the six coded categories.

The secondary mainstream practitioner was also involved in this stage of the analysis to confirm the robustness of the thematic analysis. Two coded sections of data: Content and the Social Situation of the classroom were independently analysed by me and the secondary school practitioner. Coded documents were then discussed and compared and agreement reached on the first order themes and their subsequent grouping within second order headings. This thematic approach was also used to analysis the feedback questionnaires.

Figure 5-4 provides and illustrated overview of the four incremental stages of analysis undertaken for the Focus Group and interview data.

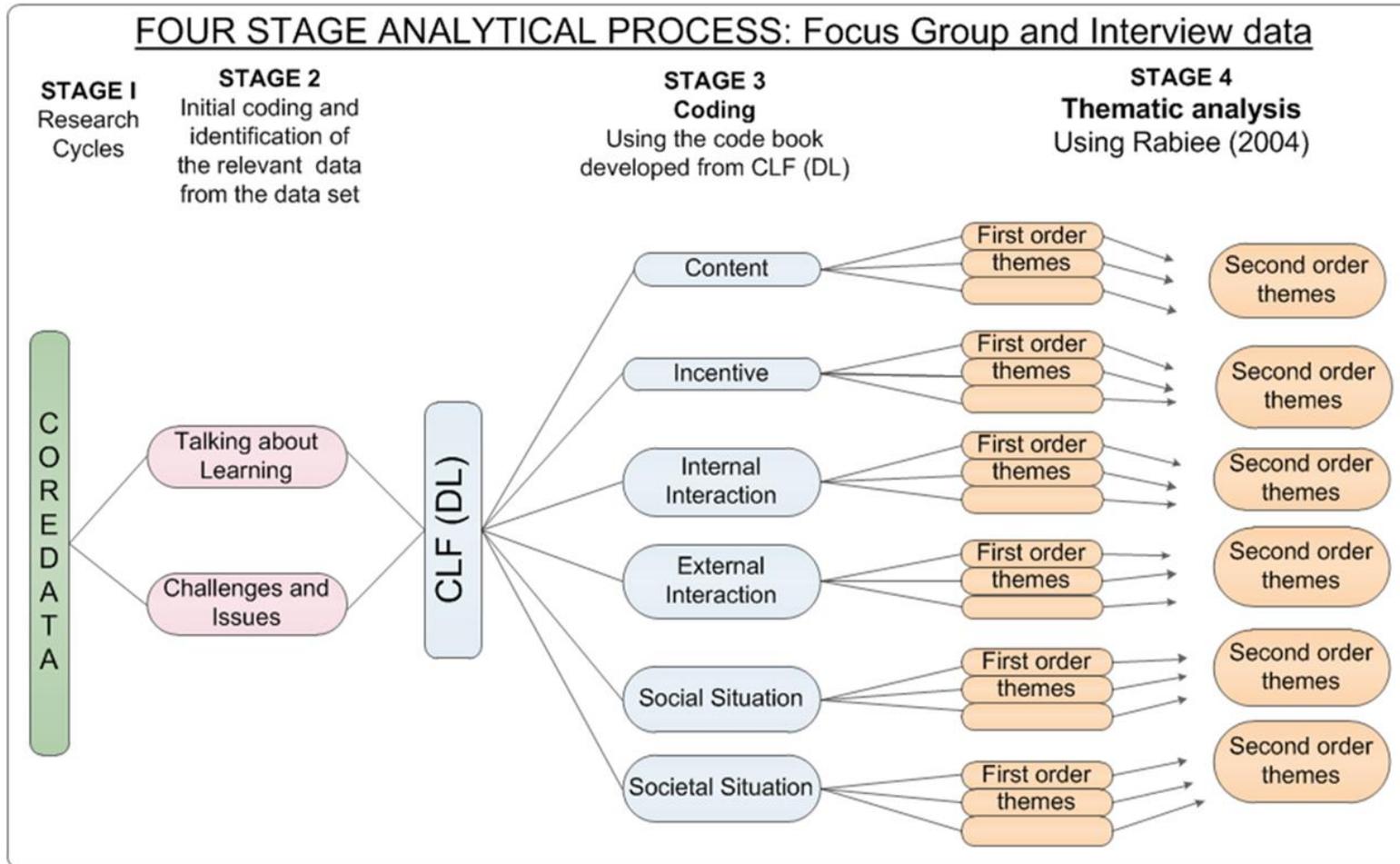


Figure 5-4 Overview of the four stage analytical process

5.8.5 The feedback questionnaire

The final component of the Core Data, the feedback questionnaire, was analysed thematically within each question response. This contributed to the core data in respect of RQ3 providing participants' own perspectives on how the research process had developed their understanding of learning.

5.8.6 The Reference Group data

The Reference Group data was analysed thematically within the responses to each of the questions presented. This is used to validate the findings or provide a different perspective and to provide further information regarding the working contexts of the individual members of the Data Group.

5.9 Summary of the analytical process

The analytical process consisted of four stages. The initial stage occurs as part of the research cycles and ensured the data generated remained representative of the teaching assistants' perspectives. The second stage allowed the relevant data to be identified from within the focus group meetings and individual interview transcripts. During the third stage the data was coded to identify the data that related to the six facets of learning represented within the CLF(DL). Finally data was thematically analysed within these categories. The Consultancy and Reference Groups provided the means to ensure the data was representative of the teaching assistants' perspectives throughout the process.

5.10 Summary

The methodology based on three core principles has resulted in a research design that consists of an iterative, qualitative approach. This provided opportunities to reflect on the research process and adapt the focus of the data generation opportunities. Findings from each stage were used to adjust the subsequent data generation. On completion of the research cycles the results were analysed in three further stages. The data was then considered in light of the two research questions and their respective sub questions

RQ2 What language and terminology do teaching assistants use to talk about learning?

RQ3 What challenges do deaf students experience within mainstream secondary classrooms from the teaching assistants' perspectives?

The following chapters will present the findings from this process. The data is however complex and the research questions required a layered approach to the findings and discussions.

Chapter 6: Findings 1: The Research Cycles, presents the findings that arose during each research cycle that influence the subsequent cycle.

Chapter 7 Findings 2: Teaching Assistants Talking presents the findings in respect to RQ2 that addresses the language and terminology the teaching assistants use and what this reveals about their understanding of learning. The findings are discussed in Chapter 8; Discussion 1: Teaching Assistants Talking. This provided an important context from which to address RQ3 and consider the challenges the teaching assistants described deaf students experiencing learning within the mainstream classroom

Chapter 9 Findings 3: Deaf Students' Learning Experiences, presents the findings in respect of RQ3 which addresses the challenges deaf students experience learning in mainstream classrooms. The issues related to the individual deaf students are discussed in Chapter 10: Discussion 2: Deaf Students' Learning Experiences. This is followed by a discussion regarding the social environment of the classroom and roles and responsibilities that exist within it. in Chapter 11: Discussion 3: Roles and Responsibilities in the Classroom. Figure 5-5 illustrates the layout of the following chapters.

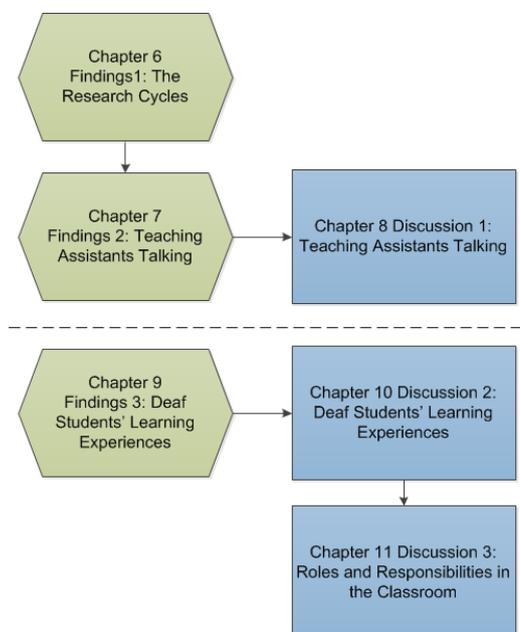


Figure 5-5 Configuration of the findings and discussion chapters (RQ2 and RQ3)

Chapter 6

Findings 1: The Research Cycles

6.1 Introduction

This chapter, the first of the findings and discussion chapters, presents the findings from each of the three research cycles and discusses the implications for the subsequent research cycles. It will be followed by the findings and discussion chapter related to RQ2, regarding teaching assistants' talk about learning and the impact of the teaching assistants' involvement in the research on their understanding about learning. (Figure 6-1).

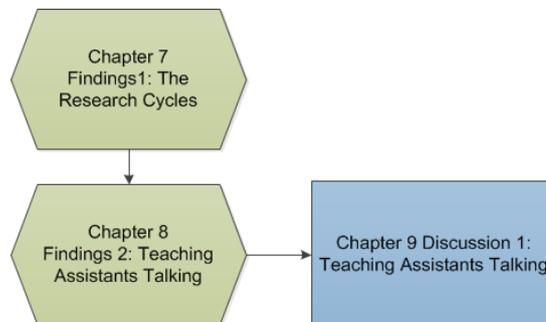


Figure 6-1 Configuration of the findings and discussion chapters (RQ2)

The core data, (Table 5.11), was generated through an iterative qualitative research comprising three cycles involving the Data and Consultancy Groups. It included data generated from the focus group discussions; Consultancy Group Meetings; individual interviews and the feedback questionnaire.

Each cycle will be presented in three sections that include analysis of the focus group data; the Consultancy Group's response to the analysis and how they shaped the process in the subsequent research cycle (6.3, 6.4 and 6.5). This will be followed by a summary of the Reference Group data that was used to triangulate the core data (6.6). Consideration will then be given to the methodology and the methods used, reflecting on the implications for the data (6.7).

6.2 Research Cycle 1

Research cycle 1 consisted of the initial Focus Group Discussion (F1) and the subsequent Consultancy Group Meeting C1.

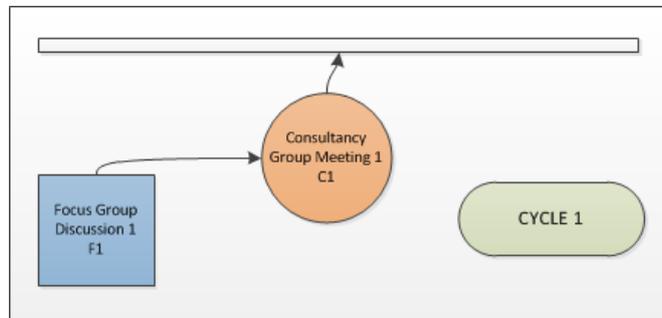


Figure 6-2 Research cycle 1

6.2.1 Focus Group Meeting 1 (F1)

The initial focus group meeting of the Data Group was held in School 1 and was attended by four participants TA2, TA3, TA5 and TA6. The pilot study indicated that a group of four teaching assistants would generate sufficient detailed interview data for analysis. The absent participants were provided with an opportunity to see a transcript of the meeting they missed and to contribute any information they felt had not been raised or they wished to explore. The meeting provided the opportunity for the participants to meet each other and discuss their daily experiences supporting deaf students in mainstream classes. The discussion was conducted with few contributions from me in order to allow the participants' perspectives to develop without intervention. My contributions consisted of ensuring all the participants had the opportunity to contribute to the discussion and to ensure that the agenda was adhered to. All four members were willing to contribute; one was quieter than the other three but made contributions to the conversation when encouraged.

6.2.1.1 F1 initial analysis

F1 was transcribed verbatim, an example is included in Appendix F.1, and analysed thematically in respect of the two main areas for investigation reflected in RQ2 and RQ3 as far as was possible:

RQ2 What language and terminology do teaching assistants use to talk about learning?

RQ3 What challenges do deaf students experience within mainstream secondary classrooms from the teaching assistants' perspectives?

Using the Rabiee (2004) framework (5.8.4) for the analysis of focus group data, first order themes were identified and grouped into theoretically related sets of second order themes.

- The responsibilities of the teaching assistant role
 - In the classroom during lessons
 - Away from timetabled lessons
- The relationship of the teaching assistant with
 - The deaf student
 - The teacher
 - The teacher of the deaf
- Training for the role and continued professional development

A detailed table of the first order themes in relation to the second order themes for both areas of the analysis are contained in Appendix G.

The teaching assistants made no direct reference to deaf students' learning whilst describing the nature of their role in the terms I had expected. Rather they discussed what they did and needed to be aware of when supporting a deaf student; it appeared that they constructed their discussion about learning in terms of support.

6.2.2 Consultancy Group Meeting 1 (C1)

The Consultancy Group were provided with a copy of the initial thematic analysis and a full transcription of F1 ten days prior to the C1 meeting. They were asked to read both documents with the following comment and instructions in mind:

The following tables represent the main themes that I felt were raised during the discussion, you may not agree! I would appreciate your thoughts.

Do you agree the themes are identifiable in the conversation?

Have I missed any themes?

Each member of the group recognised the role as similar to their own whilst acknowledging that there were clear differences between settings. They highlighted different points and considered that the interpretation of the data was predominantly accurate.

The Consultancy Group however felt that the interpretation did not sufficiently emphasise the importance of mainstream teachers' knowledge and understanding of deafness. They were keen to ensure that the negative impact

on the students caused by a perceived limited understanding of the issues by mainstream teachers was recognised as fundamental in shaping their own role. They described these factors as limiting the deaf students' opportunity to engage in mainstream lessons and the teaching assistants considered they had a better understanding of deafness than many teachers.

The meeting was audio recorded, minutes written by myself and agreed by the CG during the subsequent meeting. A sample of the agreed minutes of C1 is contained in Appendix H

6.2.3 Consideration of the findings from research cycle 1

This initial analysis revealed very little direct reference to learning. In order to ensure the data generated subsequently would address the research questions it was necessary to develop agendas that would guide discussion towards the topic of students' learning. It was clear that the questions developed for the agenda for the following research cycles would need to have a clearer focus. However, in order to ensure that the participants' own perspectives emerged these agendas could not be too leading. There was the possibility that if asked directly about students' learning the teaching assistants would perceive the research process as one of assessment or judgement and provide the responses that they thought they should give to demonstrate their knowledge. I decided, therefore, to ask the teaching assistants to select a topic as a stimulus for F2 from their experiences during the individual interviews in which they were focussed on their own classroom experience supporting a deaf learner. They were asked to select a topic they considered was related to the deaf students' learning in the classroom.

6.3 Research Cycle 2

The second cycle of research consisted of 1-1 interviews A with each member of the Data Group followed by Focus Group Discussion (F2) and the second Consultancy Group Meeting (C2) see Figure 6-3:

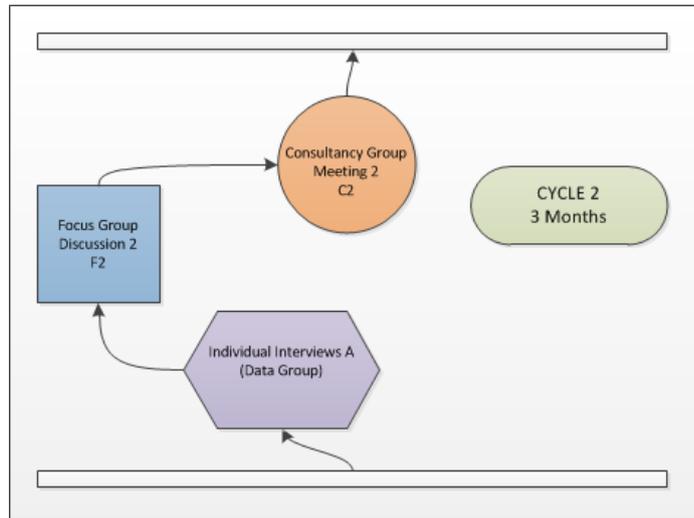


Figure 6-3 Research cycle 2

6.3.1 Individual Interviews A

The six individual interviews were conducted over a period of approximately two weeks. The focus of the interviews, as shaped by the previous research cycle, was to consider the learning experiences of the deaf students. The participants were asked to watch the video recorded immediately before the interview in which they were supporting a deaf student in a mainstream lesson and to talk about what they were doing, why they were doing it and how they felt it would support the students' learning. It was stressed that this was not a judgemental process and all the participants seemed happy enough to talk about their lesson.

At the end of the interview the teaching assistant was asked to select one theme they had discussed during the interview that they would like to share and explore with their colleagues during F2; a theme that had emerged during the interview and that they considered was important and related to deaf students' learning in the classroom. The themes chosen formed the agenda of the subsequent focus group meeting and consisted of:

- Parental roles
- Language and literacy (identified by two participants)
- Pre and Post tutoring (identified by two participants)
- The management and use of audiological equipment

6.3.2 Focus Group Discussion 2 (F2)

The second focus group discussion was held approximately two weeks after the individual interviews and was attended by TA1, TA3, TA4, TA5 and TA6. Each participant was asked to explain why they had chosen their theme and the group discussed the points raised. The only interventions required were to ensure that the quietest member of the group had the opportunity to present her views and to move the conversation on to the next topic at an appropriate interval. There was a very congenial atmosphere during the discussion and members of the group seemed comfortable enough to present alternative views and challenge comments made.

6.3.2.1 F2 initial analysis

The F2 data was analysed using Rabiee's (2004) framework. Themes were identified under the four agenda headings and two new second order themes also emerged. The six second order themes were

- Parental roles
- Language and literacy
- Pre and Post tutoring
- The management and use of audiological equipment
- The demands on the deaf student within the classroom
- Differentiation

A report summarising the themes and drawing out the key discussion points was written and presented to the Consultancy Group.

6.3.3 Consultancy Group Meeting 2 (C2)

The CG considered that the report accurately reflected the discussion and resonated with their own experiences and consideration of the issues.

6.3.4 Consideration of the findings from research cycle 2

This research cycle encouraged the participants to discuss their experiences of the deaf students' learning within the mainstream classroom and the factors they considered were important influences. However they addressed many of the issues in terms of their own practice and their own responses to the circumstances. They rarely considered the impact of a particular issue from the

student's perspective, in terms of how it may affect the students' learning, in order to inform how they might subsequently manage the situation. They were not specifically asked to discuss the issues in this way. Consideration was therefore given to developing an agenda for the final focus group meeting that would result in more discussion regarding deaf students' learning and reflect on the student's experience rather than the teaching assistants'. The questions were therefore developed to be more direct.

6.4 Research cycle 3

The final research cycle consisted of six 1-1 interviews (In. B) with each member of the Data Group followed by Focus Group Discussion (F3) and the Consultancy Group Meeting (C3). Finally all the teaching assistants from both the Focus and Consultancy Groups were asked to complete a feedback questionnaire. See figure 6-4

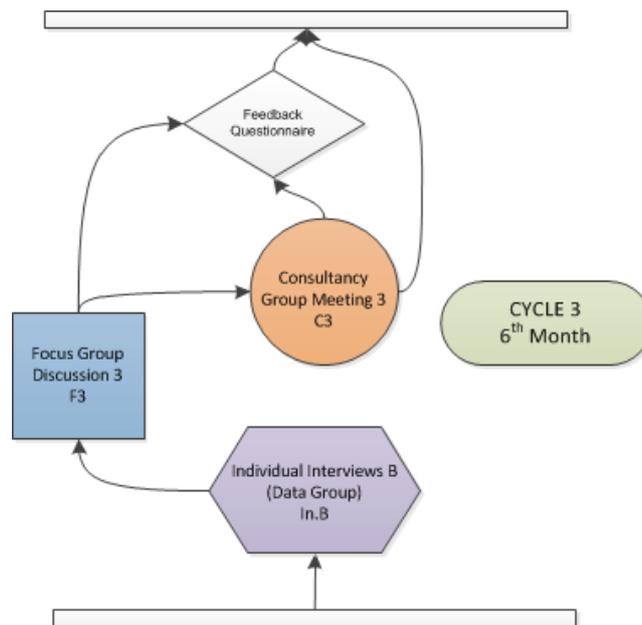


Figure 6-4 Research cycle 3

6.4.1 Individual Interviews B

The interviews followed the same format as used in Interviews A. One student, however, withdrew his consent to be video recorded and consequently no video artefact was available for the subsequent interview with the teaching assistant. Whilst an interview was undertaken the data was not included within the core data set as the discussion was not focused on a specific interaction between the pupil and teaching assistant.

At the end of each interview the participants were asked to suggest topics for the final Focus Group Meeting. In order to encourage the teaching assistants to focus on deaf student's learning the following prompts were used:

Please will you consider the following and forward your thoughts to me prior to our next group meeting:

- *3-5 things you feel are essential to understand about a deaf learner or how a deaf learner learns*
- *3-5 strategies you use and why they are helpful for the deaf student*
- *3-5 challenges you face on a daily basis in your role supporting deaf students' learning*

Despite my previous hesitation in using such direct prompts within the individual interviews I considered it was required in order to ensure the teaching assistants were provided with a clear remit to discuss the learning process of deaf pupils. My previous concern was that the participants may try to anticipate what they were expected to respond with rather than present a realistic interpretation of the classroom environment. By the third cycle of the research, however, the participants and I had developed a good working relationship and they were comfortable discussing their own thinking within the group situation.

I felt it was important to give them time to consider their response to the prompts and therefore asked them to send their response via email prior to the final meeting. These were collated (see Appendix I) and the most popular suggestions from each section formed the agenda.

These were:

- 1) The relative importance of knowing the student and the subject content
- 2) The different requirements of a deaf student from their hearing peers including:
 - a) The knowledge and understanding of mainstream staff of the impact of deafness on students
 - b) The impact of deafness on a student's functioning within a mainstream classroom
 - c) Checking a student's understanding

3) Meeting students during break, lunchtime and after school

The following two topics were added to the list although neither issue was raised by the teaching assistants:

4) Developing independence as a learner

5) The role of the teacher of the deaf

The first addition has been raised as an important issue in recent research into and discussion of the role of the teaching assistant (2.6.4) and had been briefly mentioned by the participants but not discussed in any detail. The second, the role of the teacher of the deaf, had not been raised at all which was unexpected. All deaf students are registered with their local specialist teaching service for deaf children and it would be expected that a teacher of the deaf would be involved in their support provision.

6.4.2 Focus Group meeting 3 (F3)

During the final focus group meeting the relationship between the members of the group had developed and they were all feeling more confident to contribute to the discussion and to make sure their voice was heard. It was attended by TA1, TA2, TA3, TA4 and TA6. Consequently, this final meeting required careful management to ensure only one person was speaking at once. It proved difficult at times to move the conversation on especially as the discussion was very intense.

6.4.2.1 F3 initial analysis

The analysis of the transcripts from F3 followed the same format as F2. The themes, identified using Rabiee's (2004) framework, were grouped under the five main agenda headings.

- The relative importance of knowing the student and the subject content
- The different requirements of a deaf student from their hearing peers
- Meeting students during break, lunchtime and after school
- Developing independence as a learner
- The role of the teacher of the deaf

A report summarising the themes and drawing out the key discussion points was written and presented to the Consultancy Group meeting 3 (C3)

6.4.3 Consultancy Group meeting (C3)

The final Consultancy Group Meeting again indicated that participants shared many similar challenges with their Focus Group colleagues even though their

individual contexts were different; indeed this was evident between members of the group. They considered that the report accurately reflected the discussion in F3.

6.5 Reference Group Data

The Reference Group data was analysed thematically using Rabiee's analytical framework (2004). It will be presented under the four subject areas related to the questions adapted for the different participant groups:

- Purpose of teaching assistant role
- Planning the support mechanisms
- Monitoring the support
- Description of the strategies used by teaching assistants

6.5.1 Purpose of teaching assistant role

Teachers and students described the teaching assistant roles in pragmatic terms. The students identified that the teaching assistants supported their use of hearing technology and would ensure they had heard what had been said. They also indicated that the teaching assistant was the person they were most likely to approach if they did not understand lesson content:

She makes sure I don't miss anything out and I always catch up on the lessons SI-TA6

The teachers confirmed these actions and in addition three explicitly stated they considered the teaching assistant to be another adult who would take on a teaching role:

Another teacher in the room to help re-explain things T-TA4

One teacher did state he felt the teaching assistant was not there to provide the teaching but to check the equipment and to make sure the deaf student has understood what they are expected to do:

Make sure the child has understood what they are doing versus the actual teaching...they're not there to do the teaching T-TA5

The ToDs were much more detailed in their response to the questions than either the mainstream teachers or the deaf students. In addition to the pragmatic support identified by the students and teachers the ToDs discussed a range of different approaches and strategies for supporting deaf students' learning. This included, for example, ensuring a student was sufficiently prepared for a lesson to engage in the learning that was planned both in

respect of their concept development and language. The ToDs considered it was important for the teaching assistant to know the pupil so they could detect when a student was misunderstanding or misinterpreting lesson content or the teacher in order to support the student's own understanding of their learning. They considered the teaching assistant would be in an important position to liaise with the teacher regarding the student's progress and that they should be both a mentor to the deaf student and an advocate for them.

6.5.2 Planning the support

None of the mainstream teachers engaged in any specific planning for the teaching assistant support. Three of the five teachers explicitly referred to the teaching assistants using their own initiative as being an important skill and representative of a successful teaching assistant.

You don't have to plan that extra bit because she just knows what to do and how to work with them [the deaf students] T-TA5

Two of the teachers commented that whilst they did not directly plan for the teaching assistant and were not always aware of their presence in the classroom they were very aware if the support was not available for a particular lesson.

Yes I would say she [the teaching assistant] is an integral part of the lesson...I almost don't notice her here but bloody notice it if she isn't T-TA2

One teacher did not consider it was her responsibility to manage or direct the teaching assistant

I shouldn't be having to manage you [the teaching assistant] and manage the children as well. But then of course you've got your very good ones... the ones you don't have to say anything to. They just do it. T-TA4

Two of the students indicated that they would be willing to approach a teacher or teaching assistant if they felt they needed more help or support but none of them were involved in the formal stages of planning or shaping their support. Two students stated they would prefer not to have any support whilst two others described constant checking as irritating

Just a little bit irritating...When she asks...she does check every time, like, to know what you are doing S2-TA6

They're taking over and do too much S2-TA6

The ToDs all felt that they had a difficult job influencing the nature and amount of support a deaf student receives within a mainstream school.

I can make recommendations, whether it always happens I don't know ToD C

They were able to contribute to an annual review meeting for a student with a statement of SEN however if the student did not have this in place then any formal inclusion of the teacher of the deaf in the planning process was determined by individual schools. They all indicated that whilst some schools were very welcoming of specialist support many were not and this was frequently determined by the ideology of the senior management team of a school and their approach to inclusive practices

6.5.3 Monitoring the support

None of the reference group members identified a protocol that was designed to monitor the success, failure or effectiveness of teaching assistant support. They all referred to the usual progress tracking mechanisms used to monitor all students' progress and indicated that if the student failed to make expected progress then they would review the support. However if the student was making the progress required then they made the assumption that the support was successful.

He is on task...and on his level so I just let them get on with it T-TA1

Data tables and the assessments pupils do T-TA3

This was confirmed by the ToDs who felt that the impact of support was not regularly or carefully monitored. They described talking to the students, observing the students and teaching assistant working together in class and using specialist assessments to set targets that could be reviewed with the teaching assistant. It was clear however that the prioritisation of such intervention was very difficult for the ToDs to influence.

6.5.4 Description of the strategies used by teaching assistants

The strategies employed by the teaching assistants identified by the deaf students related to the effective use of the hearing technologies. The students clearly valued their support with this. They also referred to the repetition of instructions and revisiting lesson content delivered by the teacher. The teachers looked for the teaching assistant to ensure the deaf student understood what was expected of them and then for the teaching assistant to move away and work with other pupils:

The very good teaching assistants they're prepared to help everybody T-TA4

Teachers of the deaf provided much more detailed suggestions of the strategies that might be used within the classroom. They acknowledged that checking the hearing equipment was functioning effectively was paramount and strongly recommended note taking for the deaf student to allow the student to concentrate on the lesson delivery but to have information to refer back to and revisit to help consolidate their learning. They discussed different ways to support language and literacy alongside the curriculum delivery and the importance of monitoring the deaf student's understanding. The ToDs also raised the importance of the teaching assistant liaising with the teacher to ensure that the deaf student's learning needs were being met.

liaising with the teacher before and after, it does help if the teaching assistant knows what is coming up and can anticipate any difficulties and alert the teacher ToD A

These findings will be used to triangulate the teaching assistants' perspectives of their working situations and provide a valuable insight into the day to day work of the teaching assistants supporting deaf students in mainstream classrooms.

6.6 Reflections on the methodology

Throughout the three iterative, qualitative research cycles a number of methodological issues arose that need to be considered as the data is subsequently analysed.

6.6.1 The recruitment process

The recruitment of participants to the study was more challenging than had been anticipated. Teaching assistants supporting deaf pupils in mainstream secondary schools are frequently employed directly by schools and there is no central record. Consequently the initial challenge was to locate them. Heads of local specialist services, that monitor the majority of deaf students in one geographic area, were approached and I had anticipated that I would be provided with a list of possible schools to contact directly. However for the Data Group the head of the specialist service recommended specific schools and members of staff imposing an unanticipated element of selection. She made the initial approach to potential participants who she considered would make the most useful contribution to the research potentially shaping the resulting data. This resulted in a sample of teaching assistants that were considered to be capable practitioners; positive about their jobs and confident enough to contribute to the discussion. Such a sample is unlikely to be representative of

the workforce and may therefore provide a distorted representation. With a small group of participants generating a perspective that could be considered as representative of all teaching assistants was not possible. The potential bias in selection may however ensure that the participants would be willing to engage in discussion and therefore generate useful data.

Recruitment to the Consultancy Group was through the distribution of a letter and information sheet (See Appendices J.1 and J.2) by heads of specialist support services to teaching assistants for whom an email address was readily available. Many of the teaching assistants that support deaf students within mainstream provision are employed directly by schools and consequently contact details were not available. This resulted in all four members of the Consultancy Group being recruited from secondary schools with resource based provision as the schools being well known to the specialist service. Three of the participants did not work with the deaf students that were supported by the specialist provision, but rather worked with pupils educated fully within the mainstream. The final member of the Consultancy Group did work with resourced based deaf pupils and also had a significant experience of supporting deaf pupils as part of a mainstream cohort and was therefore included in the group.

As a consequence of the difficulties in recruitment, changes were made to the original timing of the research cycles which were to be held towards the end of three consecutive school terms within a single academic year. The final two members of the Data Group were not recruited until late December 2012 and extending the data generation period across two academic years may have resulted in high levels of participant withdrawal from the study through changes in working arrangements. Consequently the gap between each of the research cycles was reduced to two months. Whether the change in timing affected the nature or quality of the resulting data is impossible to determine.

6.6.2 Focus Group discussions and individual interviews

The teaching assistants' perspectives were realised using two different methods over a six month period: focus group discussions and individual interviews with a video artefact. It was anticipated that this would provide greater breadth to the data than would have been achieved through a single approach. The focus group discussions, whilst including numerous specific examples of practice, facilitated the emergence of a generic response from both the Data and Consultancy Groups as areas of consensus were established. This process did not readily expose individual reflections. The

exception to this was during the second focus group discussion as the agenda comprised topics selected by each participant. The individual's response to the group contribution on their chosen topic provided an insight into their thinking and into whether or not it changed as a result of the group's discussion. The one-to-one interviews provided more detailed personal reflections on specific contexts and allowed for closer scrutiny of an individual's responses to being involved in the research process. A number of the teaching assistants reflected on their own development within the feedback questionnaire. As the responses were anonymised it was not possible to determine the provenance of each response, however the nature of the comments would suggest that they were provided by members of the Data Group in response to the opportunity to reflect on their own practise during the individual interviews:

It has helped me evaluate and appreciate what I actually do in class

It was interesting watching myself with the student.

Whilst the different methods employed facilitated both a collective and individual response from the participants it had been anticipated that the teaching assistants would discuss, at least in part, deaf students' learning, and how they supported the process. This however did not happen and it became necessary to adapt the focus group questions so they became increasingly directed towards the subject of learning in order to provoke discussion that addressed the issue. The video artefact used during the individual interviews proved more effective than the focus groups in generating discussion about learning. It provided a clear focus on specific classroom interactions and the participants were encouraged to talk about what they were doing and what the support was aiming to achieve. It is important to note, however, that whilst the opportunity was available during all the individual sessions few contributions directly related to learning were forthcoming.

6.6.3 The Consultancy Group

The original aim of the Consultancy Group, to strengthen the data analysis through a critical review of my initial interpretation of the data, was not immediately evident through the Consultancy Group discussions. Several attempts were made to focus the group on the critical nature of the task; however the critique, as had been envisaged, did not emerge. Rather having agreed a theme was present in the data the Consultancy Group participants provided confirmation of the importance of the issues through exploration of similar experiences. In some cases the Consultancy Group provided additional examples of the issues and in doing so developed the theme. From the initial

meeting, members of the Consultancy Group were keen to contribute their views on the issues raised. Having read the report and transcript prior to the meeting they had reflected on the content and came prepared to discuss the issues. The data generated from these discussions may, therefore, have proved very valuable to the study had they been recorded and analysed.

6.6.4 The iterative, qualitative research approach

The iterative, qualitative research approach provided the opportunity to reflect on and review the data being generated during the research process. This was particularly valuable with limited previous research to guide the development of the methodology. It provided the opportunity to adapt the stimuli for the discussions to facilitate the generation of a data set that would allow the research questions to be addressed. It could be argued that my expectation for the teaching assistants to talk about the students' learning from the start of the process was misplaced, but with limited research to shape the decision it was necessary to decide on a position from which to start. From my practitioner perspective I observed teaching assistants supporting learning in the classroom; discussed with them ways they may be able to assist a student to learn more effectively in a classroom; worked with them to develop targets for specific students and therefore it did not seem unreasonable to anticipate that learning would form part of the group and individual discussions. In order to enable the teaching assistants' perspectives to develop with as little external influence as possible I made the decision to allow the participants' discussion to develop in response to the contributions of the individual members of the group. From this starting point it became apparent that greater direction would be required to elicit direct discussion about the students' learning.

Throughout the course of the three research cycles all the teaching assistants developed increased confidence to express their thoughts. During the initial meetings all the participants within both the Data and Consultancy Groups were willing to contribute. There was just one member of the Data Group who needed to be encouraged to express her views. During the third research cycle the focus group meeting in particular needed to be carefully managed to encourage the members to ensure only one person spoke at once and that side conversations were shared with the whole group.

6.7 Summary

The three research cycles resulted in transcripts from three focus group discussions and eleven individual interviews. The teaching assistants all contributed to the focus group discussions and were happy to discuss their own practice. During the initial focus group discussion teaching assistants did not refer directly to deaf students' learning. The agenda and questions posed during the following research cycle were developed to encourage consideration of the students' learning but again proved unsuccessful. The final research cycle therefore included questions that directly addressed the subject. The research cycles provided the opportunity to reflect on the content of the data being generated. This enabled the manner of the questions used to stimulate the discussions during the focus group meetings to be modified and so ensure that the data generated could be used to address the research questions.

The two different methods of data generation, through focus group discussions and individual interviews, provided different forums that allowed the development of individual contributions and a collective response that developed through exploration of issues with colleagues. This provided a more extensive data set than would have been achieved from one approach. The Consultancy Group provided validation of the initial analysis of the focus group discussions by confirming that they recognised the themes identified and then developed them further by sharing examples from their own practice. A summary of the findings from the reference group was provided.

Chapter 7

Findings 2: Teaching Assistants Talking

7.1 Introduction

The manner in which teaching assistants discuss learning and their use of educational terminology affords an insight into how they perceived learning within a mainstream secondary classroom environment (5.4). This provides an important context from which to understand and consider the challenges they described deaf students as experiencing. Learning is defined in this investigation as a holistic process which is a consequence of the interaction between the inner self and the outer world and is a continuous process facilitated by the nature and extent of the information received through the senses (3.2).

This chapter will present the findings (7.2) in respect of RQ2 and RQ2i and the methodological sub question RQ1iv:

RQ2 What language and terminology do teaching assistants use to talk about learning?

RQ2i What might be deduced about teaching assistants' understanding of learning in the classroom?

RQ1iii What impact does teaching assistants' involvement in researching their own practices have on their understanding of learning?

The evidence to support each of the findings will be presented in sections 7.3-7.7 and they will be discussed in chapter 9

7.2 The findings

The first findings emerged from Stage 2 of the data analysis which identified the data relevant to RQ2 and RQ3 from the focus and interview transcripts (5.8.2). The coded data related to teaching assistants talking about learning and the challenges and issues they identified as relating to deaf students. The coding process revealed that

1. Teaching assistants' conversation focussed on the Content and External Interaction dimensions of learning as defined in CLF(DL).

This will be examined in section 7.3

The subsequent stage of analysis that employed Rabiee's analytical framework for the thematic analysis of focus group data (see 5.8.4) resulted in the following findings:

2. Teaching assistants discussed their support practices in terms of what they or others did, rather than how the actions shaped the deaf students' learning (7.4).
3. Teaching assistants used a diverse range of educational terminology in a manner that suggested a perception of learning that is situated within the Content dimension of learning (7.5).
4. Teaching assistants' direct references to deaf students' internal processes of learning, or the manner in which their support practices impacted on the internal processes were infrequent, fragmented and rarely followed up by other members of the group (7.6).

Finally consideration was given to the methodological process through reflection on the teaching assistants involvement in the research process and whether it influenced their understanding of learning (RQ3). Direct feedback from the participants indicated they felt they had benefitted from the experience. However consideration of their references to learning across the three research cycles led to the fifth finding:

5. Involvement in the research process did not appear to have a significant impact on teaching assistants' understanding of learning (7.6).

Each section will present the evidence from the data to support these conclusions.

7.3 Finding 1: A focus on the Content and External Interaction dimensions of learning

The teaching assistants' conversations were concerned with the Content and External Interaction dimensions of learning as identified by the coding strategy based on CLF(DL). Samples of the coding documents are contained in Appendix K. Figure 8-3 provides an overview of the themes identified using Rabiee's thematic framework (Rabiee, 2004) from the data

identified as relating to a) talking about learning and b) describing the challenges deaf students experience within the mainstream classroom environment

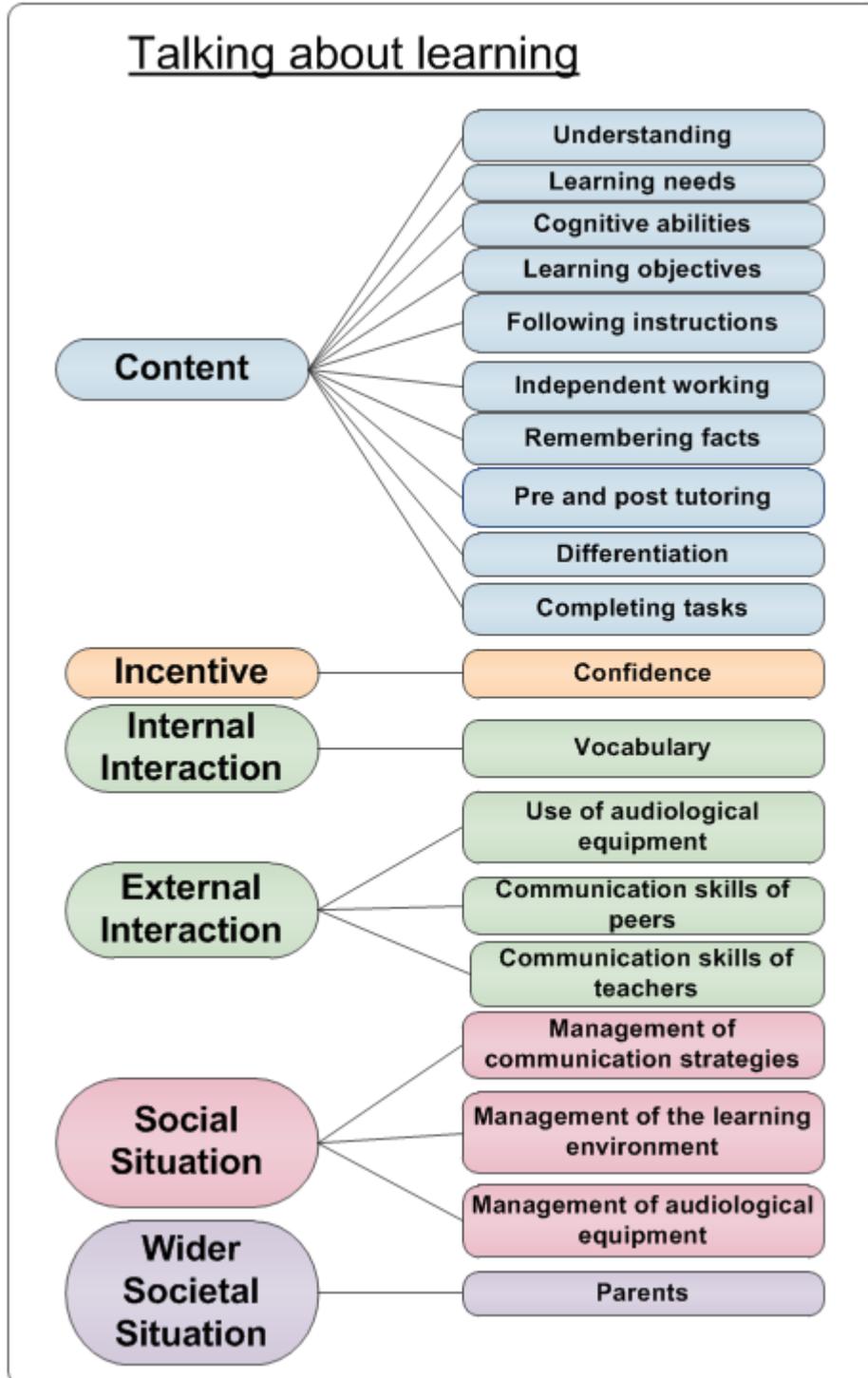


Figure 7-1 Themes identified using coding based on CLF(DL)

The participants were particularly concerned with the Content dimension of learning that includes knowledge acquisition, the construction of meaning and the development of abilities and skills. They used a range of educational terminology associated with this such as understanding, cognitive abilities, memory and learning needs. They discussed supporting students to access lesson content and complete tasks.

The teaching assistants were keen to discuss their role in facilitating communication between the student and the teacher; particularly in ensuring the student was able to hear the lesson delivery. This included the effective use of audiological equipment and the management of the classroom environment. They discussed the different communication strategies teachers and peers were encouraged to use to support a deaf student.

Significantly less attention was given to the Incentive dimension, other than some reference to the importance of confidence, or to the Internal Interaction dimension, although vocabulary was frequently mentioned. The only direct reference to the Wider Societal Situation dimension was the role of the students' parents.

7.3.1 Challenges with the coding strategy

Coding data presents inherent challenges as it is an interpretive process and discussions were necessary to agree where data should be placed and why. See (5.8.2 and 5.8.3). This became particularly apparent when sharing the data with the senior secondary practitioner as we brought different perspectives and understandings to the task and therefore did not necessarily agree. The discussions however led to an agreement as to how the data should be coded from a shared perspective.

It became apparent that the CLM(DL) framework was not sufficiently nuanced to reveal different aspects of influence from the Wider Societal Situation. It was clear that the teaching assistants frequently felt that there was a layer of organisation and authority within the school that originated outside the classroom with the senior management teams that had a significant impact on the deaf student's experiences within the classroom. It also became evident that their own experiences of deafness and the experiences of other members of the classroom community brought a different but influential dynamic or perspective to the classroom. It was agreed that these were more frequently referred to as challenges by the

teaching assistants, although they clearly shaped the learning environment, and are therefore discussed in relation to RQ3.

7.4 Finding 2: The nature of the teaching assistants' conversations

The teaching assistants' conversations throughout the three cycles of the research were descriptive and concerned the circumstances perceived by the participants as limiting deaf students' access to a lesson and what they needed to do to resolve this. Rarely did the participants reflect on why a situation would affect a student or their internal learning processes other than by enabling or limiting the student's access to the lesson content. For example one participant described the difficulties deaf students experienced in hearing what was being said and described how she would respond to the situation:

When she's speaking [the teacher] she's got her back to A [the student]. So I just reinforce what she [the teacher] said I repeat what she said so that it looks like I'm talking all the time but I'm always repeating what the teacher has said TA2 F1

They described the strategies they employed to support the deaf students' memory and recall of lessons - frequently by making notes:

...keep notes or I'll just say, jot down the key points, jot down the keywords so that you've got them as a reference if they need them. TA5 FG1

The teaching assistants described how they might support a student to engage with a new or developing concept introduced during a lesson:

I just went through what we've done in class really making sure he understood the questions... TA4 FG2

The same descriptive approach was used to illustrate the knowledge they required to support a student effectively. This included understanding the needs of the student and the importance of their own subject knowledge:

We ask children to fill in these forms- it basically tells us what they like what they dislike, what they need the help in, so it's telling us what their strengths and weaknesses are. We can do our support from that TA1 F3

...because if you know your subject inside out you can step in at any time and help the pupil... Sometimes it takes more priority when it comes to exam results for the pupil TA6 FG2

There were occasions when some participants began to reflect on the implications of the classroom environment for learning and the strategies they employed but these were limited. See section (7.5).

7.5 Finding 3: The teaching assistants' use of educational terminology

The teaching assistants used educational terminology in a manner that suggested a perception of learning that is situated within the Content dimension of learning. They used a wide range of educational terminology such as *“learning needs”*, *“additional needs”*, *“levels of understanding”*, *“skills for learning”*, *“learning objectives”* *“cognitive abilities”* and the *“importance of making mistakes”*. Close consideration of the context in which some of the terminology was used indicates that the teaching assistants' understanding of the terminology was closely aligned to the Content dimension of learning and in particular knowledge acquisition. In order to illustrate this, consideration is given to the term “understanding” which was used by the teaching assistants both in relation to learning and communication. It was not always clear if the teaching assistants were able to separate the difference between being able to hear instructions and understanding them. The following example, typical of the contributions made, could imply that by ensuring the deaf student had heard the instructions the student would understand what needed to be done:

To see they have understood the instructions, they know the lesson objectives, what they need to do, repeat the instructions for them checking that the teacher is wearing the radio aid and they can hear the teacher... TA2 F1

Closer consideration of the different use of understanding in relation to learning and communication by the participants: understanding and learning (7.4.1), and understanding and communication (7.4.2) provide an insight into how the participants use the terminology and their perception of what learning is.

7.5.1 Understanding and learning

The teaching assistants did not make any clear distinction between the terms “learning” and “understanding” and frequently associated both with knowledge acquisition. However this is not unexpected as teaching assistants are not required to undertake any training in respect of their role and therefore unlikely to have engaged in opportunities to explore or discuss

the nature of learning (2.4). Within the secondary sector there is also an emphasis on academic attainment driven by the need to acquire information and succeed in exams (2.6.3) that would reinforce the perception of learning and understanding as being the acquisition and recall of knowledge. This was particularly apparent when they discussed how they established whether or not a student had understood a concept by testing their understanding. The techniques they employed all involved the student doing or producing something in direct response to an instruction, or by recalling certain facts. They did not refer to level or depth of understanding or the application of knowledge and skills beyond the immediate context. The teaching assistants' discussions indicated they considered students had understood something if they were able to follow instructions (7.4.1.1); complete a task, ideally independently (7.4.1.2), and remember lesson content from one session to the next (7.4.1.3). Their discussion regarding the purpose and nature of differentiating lesson content and resources also reveals a particular interpretation of the process (7.4.1.4).

7.5.1.1 Following instructions

A frequently described technique to check understanding was to ensure students were able to follow instructions. For example by asking them to repeat the instructions suggesting this would confirm they were able to understand them:

That's why we're there to explain again and repeat the instructions when the teacher finishes and we repeat the instructions so they understand it well. TA4 In. A

This was also evident in discussions regarding lack of understanding in maths lessons. The correct application of a method to solve a problem was described as the manner in which mathematical understanding was demonstrated:

...he was getting the wrong answer because he wasn't using the right method...you have to write it down methodically and that's how you're learning and that's how you remember how to do your solutions. TA4 F3

No reference was made to the underlying mathematical concepts.

A different teaching assistant described a much more detailed approach to supporting essay writing in an English lesson. Initially the support appears more considered however it is also focussed on completion of an activity

rather than ensuring the students' engagement and understanding of the subject matter:

We [Teaching Assistant and Student] draw up a plan together-like this is your essay structure, how you can structure it out and you work with that pupil on a one to one basis for a bit so they know exactly what they are going to write in each paragraph and you leave them for a bit so there is some independent work and then come back to check their work again TA6 F3

7.5.1.2 Completing a task independently

Independent completion of a task by a student was considered of particular importance; being presented as a gold standard to demonstrate learning had been achieved. If a student was able to work independently on a task and complete it without any support then it was considered to demonstrate both understanding and learning regardless of the nature of the task. This was referred to in respect of Maths, English, Design and Technology, 1-1 support and Drama based lessons. Examples included:

so we know they have been able to produce something by themselves TA6 F3

they learned, they learned by themselves TA3 In. B

let him work independently and then go back and check that he is still on task and still understanding what he needs to do TA5 In. A

7.5.1.3 Recall as a method to determine learning

Teaching assistants also describe using tests of memory to check a student's understanding or learning either in the short or longer term. One participant referred to using it as a means to check understanding of lesson content:

I'll keep on asking them when they're packing up tell me two things you've learned today TA2 F3

A different participant felt it was important to determine if a student was able to remember the information she had gleaned from a picture, failing to recognise that the aim of the task had been the process and skill development of inferring information rather than the information itself:

after Easter we'll do it again to see if she has remembered them TA3 In. A

7.5.1.4 Differentiation

Differentiation is the process by which adaptations are made to the teaching strategies, curricula ,resources, "...activities to address the diverse needs of

individual students and small groups of students to maximize the learning opportunity for each student in a classroom.” (Tomlinson et al., 2003).

During the second focus group discussion the Data Group engaged in a conversation that revealed their concept of differentiation was one of simplification not adaptation or variation. The participants described the simplification of language to assist deaf students in understanding the concepts being presented. The resulting understanding of the concepts, they suggested, would be equivalent to those developed using more sophisticated language. The discussion followed a comment made by one participant which implied that the differentiation of teaching methods was often undertaken by teaching assistants:

teachers don't always differentiate the materials for the weaker pupils or those who are HI (deaf) TA6 F2

Whilst it is not immediately apparent whether or not the particular teaching assistant considered deaf students to be part of or separate from the weaker students the following comments would support the former:

I think the pupils would learn more if they had something simplified TA6 F2

This was supported by the other members of the group. She subsequently described how she had produced a simplified version of the main texts for English GCSE that she had used with the deaf students. Other members of the group commented:

That's similar to what one of our English teachers is doing Mrs L. She's done that she's made it more simpler (sic) for children to understand TA1 F2

Differentiated to their level TA4 F2

Yes, because they're still doing the other- they are still covering the book aren't they ... it is just getting the understanding TA5 F2

These different examples of the use of the term 'understanding' in relation to learning suggests that understanding is perceived by the participants as being able to follow instructions; complete a task independently; remember something and they indicated they had little recognition of different levels of understanding.

7.5.2 Understanding and hearing

The term understanding was also used by the teaching assistants to infer that a spoken contribution had been heard successfully. Indeed a key part of their role was identified as endeavouring to guarantee a deaf student was

able to understand what was being said, that is to ensure the student could hear contributions from individuals in the classroom, or to be precise, individuals who were considered by the teaching assistants to be contributing to the educational aims:

The main focus is, because they're hearing-impaired, just to make sure they don't miss out on anything and information that is being given... TA6 In. A

The effective use of audiological equipment (7.4.2.1) and the implementation of communication strategies (7.4.2.2.) were referred to as being particularly important in achieving this aim.

I had anticipated that because of the emphasis on deaf students' language skills within the literature (4.2, 4.4.1) that these would be discussed by the teaching assistants. Whilst recognising the teaching assistants are unlikely to have received any formal training I had expected that they would be providing specific language support as a consequence of discussions with the student's teacher of the deaf and mainstream teachers. However this was challenged by the data; other than frequent reference to key vocabulary no comments were made linking language skills and learning (7.4.2.3). Much more emphasis was placed on the effective use and management of audiological equipment.

7.5.2.1 The use of audiological equipment

The effective use of audiological equipment was frequently referred to and in particular the need to ensure the equipment was used effectively:

checking the teacher is wearing the radio aid TA3 F1

just remind them...she needs to wear it [the microphone] up a bit or it's not on or something like that. TA3 F1

The need for such reminders was also mentioned by the deaf students and the teachers themselves. One student was quite indignant as she described:

I'm saying this is the microphone and you're holding it wrong... they put this [the microphone] there like that and I can hear the rustling sounds P1-TA6.

One teacher mentioned very early in her interview the role of the teaching assistant in supporting equipment use:

In terms of use of the equipment then for example, because I'm not, you know I'm not a specialist in that field and that's something that the TA, I would hope... the TA would look after it for me in my classroom, T-TA6

The teaching assistants also felt it was important to address individual student's use of hearing aids and there was a clear inference from the group that such technology could positively influence students' learning. One teaching assistant stated that a particular student, with a mild hearing loss (see glossary), would be able to learn more if he wore his hearing aids:

He would learn a lot more if he had his hearing aids. Be a lot better... he'd be up two groups... He has improved since he started but he could do more if he had his hearing aids with him
TA1 Interview A

Hearing technologies, however advanced, sophisticated and well used do not replace normal hearing (2.3.1). The limitations of the technology were only mentioned once and were not discussed by the group despite the implications this may have on a deaf student's ability to hear the teacher:

I don't know but I still think they don't hear as effectively, they're not able to focus as effectively TA6 F2

In fact one participant remarked that in order to encourage students who were reluctant to wear their hearing aids she would describe the aids as beneficial telling them:

there is a benefit. You know what we tend to say to some of the children with hearing impairments well you've got super hearing think of it that way you've got much better hearing than you and I
TA1 F2

It is unclear as to whether she believed this was in fact the case.

7.5.2.2 Communication strategies

Despite the lack of awareness of the limitations of hearing technologies the teaching assistants recognised that the students also required good communication strategies to be applied if they were to be able to follow the spoken contents of a lesson. This included managing where the deaf students were seated; ensuring the student was able to see a speaker's face to facilitate lip reading as well as for the teacher to repeat the contribution of other students in whole class discussions and to manage background noise:

Make sure that you are ... aware of the teacher and pupil. Can the pupil see the teacher clearly? Can he hear...Is he in a good place? Has he got the radio aid on? Good seating position? TA5 F1

7.5.2.3 Vocabulary

With the emphasis placed on access to lesson content through the management of audiological equipment and communication strategies little reference was made to the individual language skills of the deaf students or the importance of language skills in understanding the communication. The teaching assistants did however frequently talk about “key words” or “key vocabulary”:

you know key words are so essential new words that they learn
TA2 F1

One teaching assistant acknowledged that it was more complicated than just learning a single definition stating that context is important for comprehension but this was not discussed further:

how do we know they have understood the meaning of that specific word ... I would say the word “back” has got 50 definitions in the dictionary TA5 F1

Only one participant raised the issue of language and its importance within the learning process describing language as being a part of every subject, rather than just a means to develop ideas and concepts:

language development is highly crucial because, simply because it is in every subject, not just the English literature or literacy but it is in every subject. TA2 In. A

It was evident in the discussions that vocabulary provided the focus for individual language development.

7.6 Finding 4: Teaching assistants’ references to learning

Throughout the three research cycles very little consideration was given by the teaching assistants to how the practices they employed in the classroom supported the students’ learning. Any contributions made were short and fragmented. For example when TA5 observed a video of herself supporting a student in a maths lesson she described checking his understanding of vocabulary:

there was increase and decrease and I was just checking his understanding of what they meant and he didn’t actually know which way round they were so I am just drawing diagrams to show him increase is up and decrease’s down TA5 In. A

In her second interview, she linked a mathematic problem to an everyday situation to help a student conceptualise it:

So he was saying that ...I think it was nought take away two or something... so I was giving him an everyday thing, so if I've got no pounds, takeaway two pounds ... just trying to link it with everyday situations just trying to get them to understand

TA5 In. B

In a technology lesson TA2 was working with a student who had challenges with hand eye coordination as well as his deafness. She was aware that the lesson was particularly challenging for him and commented:

every student in here is individual, some of them need to be pushed and pushed and pushed. But with A... he gets really upset then so; it's knowing the student that you're working with, because if I would have pushed and pushed and pushed, he would have not got anything out of this lesson. TA4 In. B

The teaching assistant recognised that in this situation it was important to ensure that the student remained in a receptive state of mind if he was to be able to learn.

In the final example the teaching assistant reflected on why a student found an inference task challenging by endeavouring to understand the students' perspective:

I was thinking ... how she will [sic] see the pictures,... what she [the student] said "She's got a car that's why she takes people to the railway stations"... It's all different, we think about things differently but she was thinking, like opposite, it was different you know" TA2 In. A

None of these comments extended into any further discussion.

7.7 Finding 5: The impact of involvement in the research on participants' understanding of learning

The final finding is in relation to "Teaching Assistants Talking", that the teaching assistants' involvement in the research process did not appear to have a significant impact on their understanding of learning, would indicate that the methods selected to generate the data did not provide an opportunity for such development. There appeared to be little change in how the teaching assistants as a collective discussed learning across the three research cycles. The individual interviews provided greater opportunity for individual reflections than the focus group discussions yet this was only embraced in a limited way by some of the participants and is illustrated by two short case studies. Both participants supported deaf students within

urban secondary schools; TA1 in a co-educational setting with approximately 1320 students and having three years' experience working with deaf students; TA6 in a girls' school with approximately 850 students and five years' experience working with deaf students. Whilst both participants were predominantly concerned with their daily practice and ensuring students were able to access the lesson delivery TA1 was keen to consider parents' influence on the students' behaviour and use of hearing aids in the classroom. TA6 addressed a broader range of issues regarding her daily support practices. During the second individual interview she reflected on the previous learning experiences of the students with whom she was working. TA6 became more confident and willing to consider the influences that impact on a student's learning whilst TA1 focussed on the attributes of the student and her colleagues.

7.7.1 Teaching Assistant 1 (TA1)

TA1 was unavailable for the first focus group discussion. She was provided with a transcript and the opportunity to comment on the topics discussed but did not provide any additional contributions. She attended the subsequent Focus Group Discussions (F2 and F3) and made arrangements for the two individual interviews. The first interview was undertaken successfully. Interview B was not, as the student withdrew his consent to be videoed immediately prior to the lesson. Consequently the interview with the teaching assistant did not have a video artefact and was, therefore, not included. The following information is based on TA1's contribution to:

- Interview A
- Focus Group Discussion 2
- Focus Group Discussion 3

TA1 introduced the issue of parents' involvement during Interview A; it was clearly an issue she felt passionate about. She began by describing the purpose of her role in the observed lesson as to ensure the student was able to hear what was being said and remain on task:

"...get him to stay focussed...to make sure he has heard- if he is listening to what Miss had said... when...he misses out on what is being said then he'll shout out." TA1 In. A

This was clearly an important issue for the class teacher who commented:

he winds me up, he is so loud! TA1-T

The teaching assistant attributed his behaviour and unwillingness to wear his hearing aids to his parents' lack of engagement with school. She quickly expressed the view that she encountered these issues frequently:

it's the support from the parents that is ...the problem. You see if we get the support from the parents and the parents can work in line with the school then maybe we can do more for the children
TA1In. A

She chose the issue of “parents” to discuss during F2. The subsequent lengthy discussion exchanged a wide range of ideas, strategies and experiences of how parents may be encouraged to link with school however there was no consideration of why this might be an important factor in supporting a student's learning or the barriers the parents may face in achieving this. The discussion did not appear to alter TA1's perspectives of the role of parents; towards the end of the conversation she reiterated her previous view:

so if we can get the parents to come in at times when they've got a problem we can sort them out...what is more or less stopping us from helping these children is the [lack of] support from their parents TA1- F2

7.7.2 Teaching Assistant 6 (TA6)

TA6 attended all focus group meetings and interviews. During F1 she shared strategies and experiences with the other participants. During the Interview A, she talked about the classroom interaction and her role in ensuring the students were able to hear what was being said in order to follow the lesson. she made little reference was made to the students' learning. Towards the end of the interview she commented that it would have been helpful to have pre-tutored the student and selected this topic for F2. During F2 she reflected on why pre-tutoring might support the student's engagement in the lesson, beginning to consider the manner in which this strategy may support her learning experience and make it more positive:

I could prep her up so that she goes into the lesson she knows exactly what they are going to be focussing on... be more a part of it rather than looking a bit confused and lost at times. TA6 F2

Her willingness to reflect on her own thinking and practice was again demonstrated later in the meeting. The participants had been discussing differentiation describing it as providing a simplified version of the information other students received. TA6 described the use of simplified English Literature texts with an able student:

she's got gaps in her education so therefore some of the work she won't be able to understand so if I've simplified a version she'll be able to understand it better TA6 F2

When it was suggested to TA6 that by simplifying the text the deaf student may not be able to develop the same level of understanding as her hearing peers or support her language development, TA6 responded with a thoughtful "Ahh..." having clearly not considered this perspective.

During the second interview TA6 considered in depth what she was doing as she supported two deaf students within an English lesson. She reflected on different issues that might be contributing to the students' learning within the lesson by drawing on her experience of the students and the potential impact of deafness on the students' knowledge and understanding of the subject matter being discussed:

At the first instant I seriously thought she didn't hear me ... the second time I thought that she didn't understand me, I thought, because ... the girl's [the character in the text] life is very different... she [the student] probably thinks every child is happy, you know whatever setting ... whatever things they are doing, so I thought she's not, she clearly doesn't understand that if you're in a different setting your life is - in a different environment ...and you don't have certain necessities of provisions then how different it is, so I thought I have to go deeply into this whereas I wouldn't have had to do that with J, the other pupil, the hearing pupil, because, ..., she clearly understood. She's seen the difference.
TA6 In. B

On several occasions throughout the interview she commented on her rationale for her support or use of questions in respect of the student's learning:

*I wanted her [deaf pupil C] to look deeply into the situation and expand on her answer ...so she could empathise with Anita [a character in the text] and see life through her eyes. Once you give C a bit ... she actually gets to the bottom of things ... you just have to question her more.*TA6 In. B

I... ask her lots of open questions rather than just closed questions so she'll actually think for herself. TA6 In. B

For this teaching assistant the research cycles provided an opportunity to scrutinise her own practice in terms of the students' learning. The mainstream teacher with whom she was working during these two lessons described her as an important part of her team and:

a strong TA TA6-T

This was the only occasion that the students' learning was explicitly reflected upon during the data generation process.

7.7.3 The feedback questionnaire

The feedback questionnaire asked the teaching assistants to reflect on their experience of the research process, anonymously, and if they felt they had learnt anything, all but one felt they had. Eight of the nine teaching assistants who responded to the questionnaire considered that being involved in the research had had a positive impact on both their confidence and their own practice. Only two responses indicated the participants felt they had developed their understanding of deaf students' learning:

I have more awareness and knowledge of the impact of deafness on the maturity of students. I realise they don't have the same access to the media as their hearing peers and how this affects friendship groups and relationships.

Every HI [deaf] child in a class is different, they all learn differently

Other comments referred to the teaching assistants' increased confidence; development of their practice and the benefit of sharing ideas and support strategies.

Increased confidence was attributed to meeting colleagues from different settings; discussing commonalities of practice and the realisation that there are common challenges:

Very informative and interesting to hear that we all faced similar problems and issues

Some of the teaching assistants reflected on what they now felt confident to address within their own settings:

We may ask for teachers to let us have the lesson plans well before so we can prepare...make sure the teacher uses the radio aids during the lesson

Be more proactive in the classroom regarding the teaching staff's awareness

Four participants referred to gaining knowledge from other members of the group, for example:

Although working with SEN students for many years some of whom are hearing impaired I have a better understanding through listening to other teaching assistants and the strategies they implement

Overall the participants described their involvement in the research process as a positive one that supported their professional development. The questionnaires indicated that the research process allowed the teaching assistants to develop their confidence through recognising shared challenges and increasing their repertoire of support strategies. It did not provide any substantive evidence that the participants had developed their understanding of the learning process.

7.8 Summary

This chapter presented the findings in relation to the manner in which teaching assistants talked about learning and the impact of the methodology on the teaching assistants' understanding of learning. The participants described what they did to assist deaf students to understand a lesson by ensuring the student could hear what was being said. They rarely reflected on how their actions supported the deaf pupils' learning or learning experience. The teaching assistants used a range of language and terminology associated with education in the UK however their understanding of the concepts appeared to be limited. There were a small number of comments directly related to learning but these were fragmented and limited in scope. Two short case studies were used to illustrate the range of responses from the participants in this respect. The feedback questionnaire indicated that the participants felt their involvement in the research process had been positive and beneficial. They reported an increased awareness of the diversity of needs of deaf students and the acquisition of new ideas and strategies to implement. They welcomed the opportunity to meet with colleagues and share practice; only two comments were made in respect of a greater understanding of deaf students' learning. There appeared to be little change in participants' perceptions of deaf students learning throughout the research process.

The following chapter will discuss these findings.

Chapter 8

Discussion 1: Teaching Assistants Talking

8.1 Introduction

This chapter will discuss the findings presented in the previous chapter, regarding teaching assistants talking about deaf students' learning and reflect on the methodology in respect of the teaching assistants development of their understanding of learning. See figure 8-1

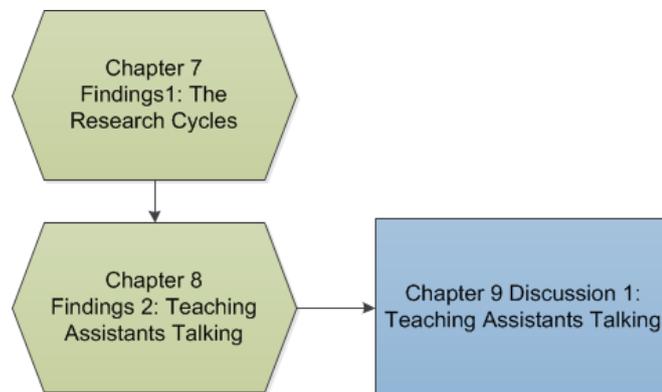


Figure 8-1 Configuration of finding and discussion chapters (RQ2)

It will explore the potential impact of teaching assistants' understanding of learning and their own expectations of what they consider they should be doing. Both of these potentially impact on the effectiveness of their presence in the classroom.

The implications of these findings for the subsequent stage of this research, which considers the deaf students' learning experiences, will then be examined (8.2). This provides an understanding of the context from which the data has been generated.

Finally this chapter will reflect on the methodology (8.3) with regards to its effectiveness in exposing teaching assistants' perspectives of learning as reflected in finding 5.

8.2 Discussion

8.2.1 Teaching assistants' training

There are likely to be a number of influences on the way in which teaching assistants talk about learning; a key one of which will be the amount of training they have received. Teaching assistants are not required to have any formal training (2.6.3) although two of the teaching assistants in the Data Group had undertaken the Higher Level Teaching Assistant Qualification. This qualification was developed to equip teaching assistants with the skills to be able to teach classes of students independently, albeit under the guidance of a fully qualified teacher. Whilst one of the two teaching assistants was employed in this capacity the other was not. For the majority of the group, knowledge of learning is likely to have been acquired through discussion with colleagues; attendance at ad hoc training days; listening to teachers talking; from their experience working in the classroom and from being a student in the education system themselves. These situations will also have contributed to the knowledge of the two teaching assistants who had received formal training. Most adults within our society have spent over 10,000 hours in a classroom as a student (Illeris, 2007), which will inevitably contribute to shaping the individual and their notion of what learning is. Teaching assistants' attitudes and approaches to learning will be influenced by their own formal learning environments (Parker, 2005); those in which they have worked; the expectations they have of their role and the expectations of the teachers with whom they work.

8.2.2 Paraprofessionals' use of key vocabulary

Throughout the course of the focus group discussions the teaching assistants used a diverse range of the language and terminology associated with educational practice in the UK. The teaching assistants' use of this terminology suggested that their understanding was situated within the Content dimension of learning (7.2). This aspect of the teaching assistant role is not unique within the wider paraprofessional community. Baker and Pearson (2010), examined the use of terminology by paraprofessional Nutrition Educators during the development of core competencies. They revealed that there was a lack of clarity amongst the paraprofessionals of key terms used within the professional community. In this study teaching assistants' discussions indicated that they considered learning to be knowledge acquisition through the curriculum, the success of which was

determined by the retention of information and subsequent recall which would lead to exam success (7.4). Whilst they identified some factors that may influence deaf students' learning that are related to internal process represented by the Incentive and Interaction dimension of learning as well as external influences their primary concern was with the immediate classroom environment and with the acquisition of knowledge (7.2).

8.2.3 Political influences within education

Within the current political climate government policies also emphasise the Content dimension of learning: attainment, progress and achieving academic qualifications and is likely to contribute to the teaching assistants' understanding of the learning process (2.4). Educational policy in respect of pupils with SEND continues to emphasise the need to remove barriers to learning and ensure pupils are able to engage with the full curriculum (Department for Education and Department for Health, 2014)(2.4.2). These concepts, therefore, are likely to shape teaching assistants' perception of learning. Indeed they are likely to shape mainstream teachers' perceptions of the purpose of teaching assistant presence in the classroom. This was evident within the teaching assistants' discussions as they described their primary aims as ensuring the deaf students could hear what was being said and that the gaps in knowledge that occurred when information was missed were filled (7.2).

This was also evident in mainstream teachers' responses who all referred to the teaching assistant being responsible for ensuring the student heard what was being said or filling in the gaps in the information the student received (6.5.1). No reference was made to sign language provision by the Data Group members as none of the students they were supporting used BSL in the school environment.

The resulting data was unlikely to reveal any direct insight into the learning challenges the individual deaf students encountered within the classroom. Rather it presented an account of the "learning experiences" that the deaf students engaged with in the secondary school settings; from which a new perspective of their learning may emerge.(4.9).The teaching assistants do refer to experiences that the students brought with them into the classroom such as prior knowledge, language skills and attitudes; they discussed the knowledge and attitudes of other pupils and staff , as well as the challenges presented in the social situation of the classroom because these are

considered to affect access and knowledge acquisition. These will be considered in the following chapters.

8.2.4 Expectations of the teaching assistant presence in the classroom

Mainstream teachers and students both described their expectations of the teaching assistant role in pragmatic terms. Both groups referred to the management of audiological equipment and ensuring the deaf students were able to access any instructions and to complete tasks. The teachers particularly valued teaching assistants they considered were able to support students without any guidance or input and those who were willing to support a number of different students, not just the pupil they were officially allocated to. Several of the teachers described the teaching assistant as another person available to teach the students, although one participant did explicitly state teaching assistants should not be teaching. In many classrooms, therefore, the teaching assistant would be required to develop their own notion of what supporting learning entails. Invariably this would be based on their previous experiences (8.2.1) and what they considered was expected of them in the role.

If a teacher requires students to listen to input and then to complete a task, the teaching assistant may understandably perceive this as the aim of the lesson and therefore ensure students complete the task. When supporting a deaf student the most obvious and immediate issue to attend to would, therefore be to ensure the deaf student was able to hear what was being said and then to follow the teacher's instructions, as described by the teaching assistants in this investigation. This highlights a complex interplay of expectations of the purpose of the teaching assistant role in the classroom, indeed the different understandings of the role as indicated by the teachers - to teach or not to teach - would suggest that there are different expectations within different classrooms that the teaching assistants are required to interpret.

8.2.5 Implications for investigating the effectiveness of the teaching assistants' practice

The impact of the teaching assistants' understanding of learning, developed through their own experiences, combined with the need to develop their own expectations of the of their role within an environment in which they encounter fluctuating and diverse expectations of what they should be doing,

will undoubtedly impact on the effectiveness of their practice. Studies have compared the quality of the interaction between teachers and students and between teaching assistants and students, suggesting that the teaching assistants' lack of skills in promoting learning indicates that they should not be engaged in pedagogical practices (Rubie-Davies et al., 2010, Radford et al., 2011) (2.6.4). The findings from this study however suggest that there may be other factors that should be considered, factors that do not just focus on the qualities and skills a teaching assistant might bring to the classroom. Consideration should also be given to the impact of the social situation on the nature, purpose and development of the teaching assistant role. In particular how teaching assistants develop their understanding of and consequently conceptualise learning and the manner in which educational practitioners' expectations of the role within the classroom environment influences and shapes the teaching assistants' practice.

8.3 Methodological reflections: Impact of research on teaching assistants understanding of learning

Throughout the three research cycles there was very little development in how the teaching assistants talked about learning. The research process provided the opportunity for the participants to reflect on their practice and on students' learning. They did not appear to use the different forums to develop their understanding beyond one that was firmly embedded within the classroom and centred on knowledge acquisition (7.2). They did begin to consider some external influences that may be evident in the classroom but in general they articulated such factors by describing how they impacted on their own actions or what they needed to do to ensure the deaf student was able to access the lesson (7.3).

In order to ensure that the research process generated the teaching assistants' perspectives I avoided asking the teaching assistants directly about their understanding of learning at the beginning of the research cycles (see 5.4.1). The final focus group discussion posed questions that directly addressed the deaf students' learning however there was no clear response to these. The teaching assistants continued to discuss the classroom experiences of the students predominantly in terms of what they, as teaching assistants, needed to do to ensure access to lessons (6.3, 6.4). They identified different sources for the challenges the deaf students encountered however the teaching assistants did not discuss the challenges in terms of

how they would impact on the students' learning beyond being able to hear and retain the lesson content. This would suggest that further research cycles or the inclusion of a greater level of direct questioning would have been unlikely to have resulted in increased discussion regarding deaf students' learning. The research process provided the participants with opportunities for extended discussions with colleagues working in very similar situations, as well as for personal reflections; however neither appeared to provide opportunities to extend their knowledge or understanding about learning.

8.4 Summary

Teaching assistants used a wide range of language and terminology associated with educational practices in a manner that suggested that their understanding of the concepts of learning were seated with the Content dimension. They also discussed supporting deaf students in terms of what they as teaching assistants did rather than by considering the students' perspectives and the way in which their support may facilitate deaf students' learning. As teaching assistants are not required to have any formal qualifications or previous training it is suggested that they will have acquired their knowledge and understanding from their personal experiences and by engaging in discussions with colleagues and educational professionals. During the course of the research cycles the participants did not appear to develop their understanding of learning despite the opportunity for extended discussions with peers and individual opportunity to reflect on their own practice.

Consideration was given to the potential impact of teachers' expectations of the teaching assistant role. It was suggested that the lack of consistency from teachers regarding what they expected from teaching assistants might contribute to the recent discussion regarding the effectiveness of the role by recognising the interaction and influence of the social situation on the manner in which support might be executed.

Chapter 9

Findings 3: Deaf Students' Learning Experiences

9.1 Introduction

The teaching assistants identified a range of challenges deaf students experienced learning in mainstream secondary classrooms. Whilst the teaching assistants' perceptions of learning appeared to be based on access to and acquisition of knowledge (Chapter 8) they described a much broader array of issues that presented challenges to deaf students' learning within the mainstream classroom environment. This chapter will present the evidence and findings of the analysis in respect of **RQ3** and its sub question. These findings will then be discussed in chapter 10 and chapter 11. See figure 9-1.

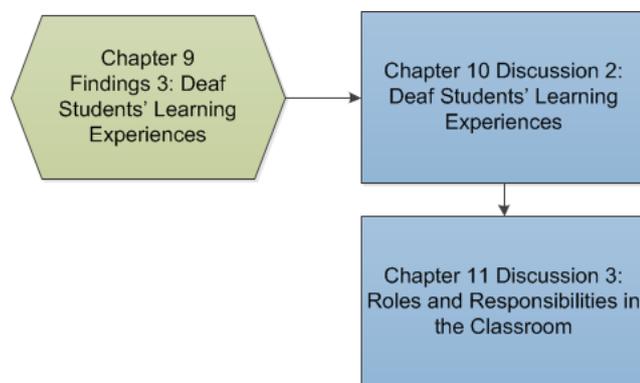


Figure 9-1 Configuration of the findings and discussion chapters (RQ2 and RQ3)

This chapter will begin by presenting the four findings (9.2) which are separated into those that concern the deaf student directly and those that related to other members of the classroom community. The data that supports the first finding indicated that there are both internal and external factors that resulted in challenges for the deaf student are presented in (9.3). It initially considers the themes that emerged from the data coded as Interaction: internal processes and external influences that presented significant challenges for all deaf students (9.2.1). The following sections

present the data coded as Content (9.3.2), Incentive (9.3.3) and the Wider Societal Situation (9.3.4).

Finally the chapter will present the evidence from the data that supports findings 2 (9.4.1), 3 (9.4.2) and 4 (9.4.3). These findings were identified as occurring as a consequence of the deaf student being educated within the Social Situation of the classroom.

9.2 The findings

The first finding concerned the individual deaf student's response to the classroom learning environment:

1. The teaching assistants identified a range of factors that present challenges for deaf students. These originate within the internal processes of learning and as a consequence of external influences. (9.3)

The three remaining findings related to other members of the classroom situation: the teacher, teaching assistants and other pupils, and their responses to the deaf student. These responses influenced the deaf students' learning experience and were identified as creating additional challenges. (9.4)

2. The teaching assistants associated less successful knowledge acquisition with poor communication and consequently prioritised communication and knowledge acquisition when supporting deaf students. (9.4.1)
3. The teaching assistants described the deaf students as frequently engaging in lesson delivery through a mediated learning experience i.e. they were presented with the lesson content by an individual, other than the teacher, who would invariably reinterpret the lesson content (9.4.2)
4. The teaching assistants were explicit in their belief that mainstream teachers were frequently unaware of the particular challenges deaf students experienced during lessons (9.4.3)

The separation of the findings in this manner is not to imply that there is an obvious or direct causal relationship between the first and subsequent findings but rather they represent different perspectives of a complex situation.

9.3 Finding 1: The internal process and external influences on deaf students learning

The range of challenges discussed by the teaching assistants is presented using the overall structure of the CLF(DL), figure 9-2. This provided the framework that was used to analyse the challenges to deaf students identified by the teaching assistants. It facilitates the consideration of the internal processes and external influences that have been identified by the teaching assistants as impacting on deaf students' learning experiences in mainstream secondary classrooms.

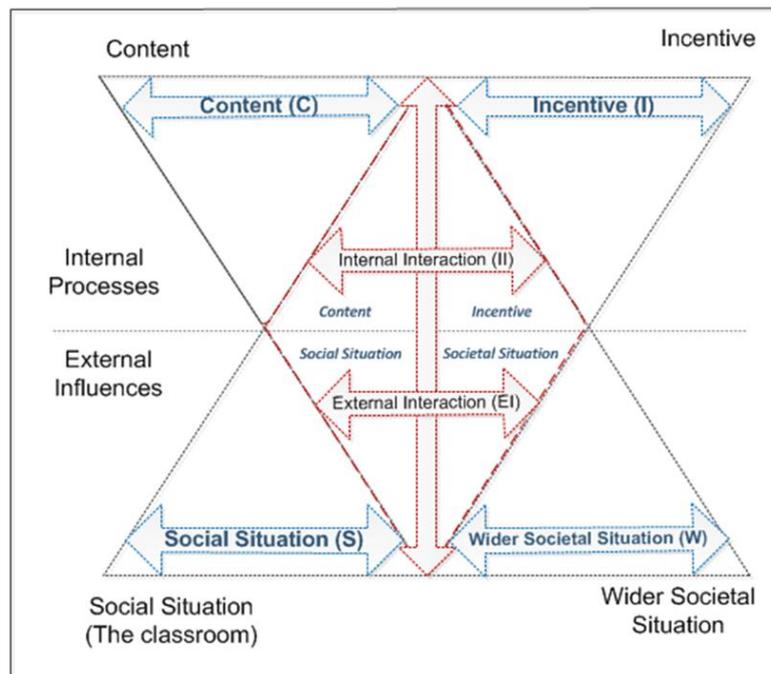


Figure 9-2 The CLF (DL) illustrates the internal processes and external influences of learning

Whilst the factors were associated with different dimensions of learning, based on the context in which the teaching assistants described them, it was clear that they represented different facets of a complex situation. Figure 9-4 provides a summary of the themes identified.

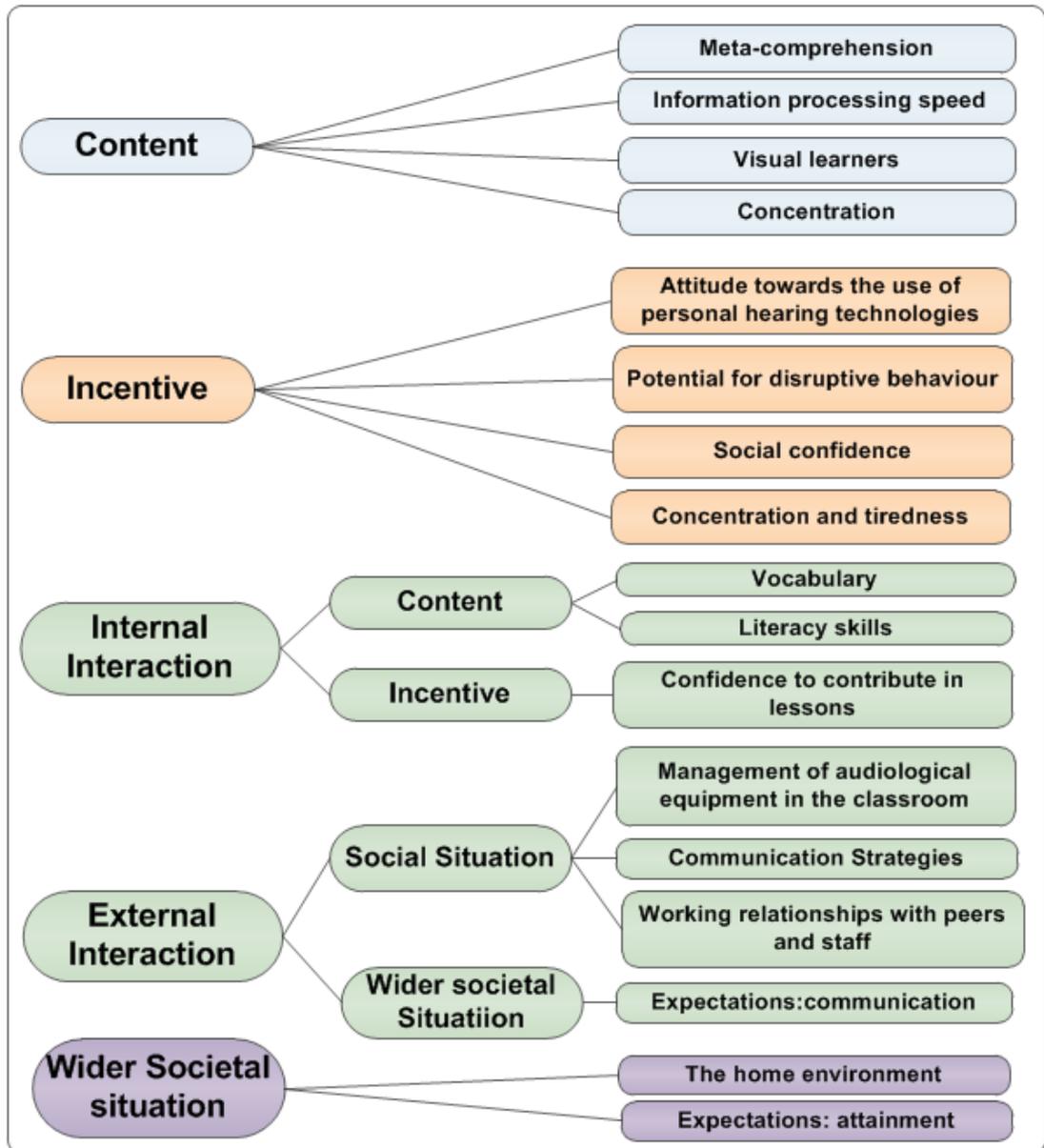


Figure 9-3 Summary of themes identified using CLF(DL)

It is important to note that the analytical process developed using the CLF(DL) was not intended to imply that the emergent themes were isolated units of influence or mutually exclusive of one another at any part of the learning process. Rather it was intended to reveal significant factors that coexist within the formal learning environment of a mainstream secondary classroom.

9.3.1 Challenges within the Interaction dimension of learning

The evidence that supported the identification of the themes within the Interaction dimension of learning, identified in figure 9.3, will be presented in the four subgroups of Interaction:

9.2.1.1 Internal Interaction - Content

9.2.1.2 Internal Interaction - Incentive

9.2.1.3 External Interaction - Wider Societal Situation

9.2.1.4 External Interaction – Social Situation

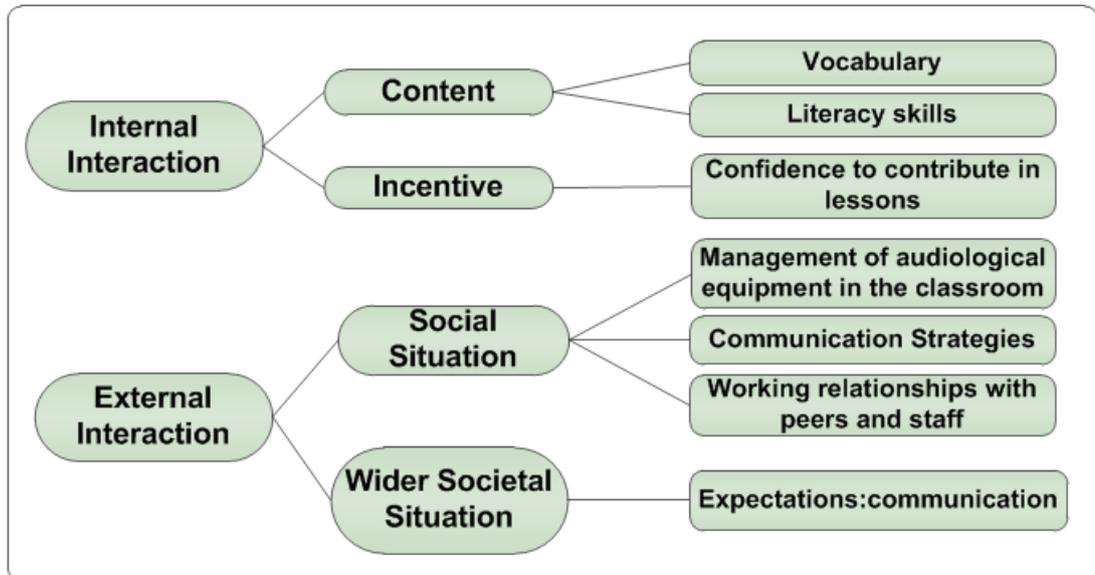


Figure 9-4 Themes identified within the Interaction dimension of learning

9.3.1.1 Vocabulary (Internal Interaction-Content)

Deaf students were described frequently as having gaps in their vocabulary in a manner that suggested the students' lexicon could provide a window on their knowledge:

There might be a simple word that the HI (deaf) student may not have come across before? TA6 F3

That if the word was known so was the concept:

if you're in a classroom and you are missing 50% of what's being said and you've got words that you still haven't... or you've never heard of before -it's like whoosh ...whereas if they've heard a word (before) they hear it ... 'oo okay I just grasped what that is and I've learnt what that means' ... TA5 F2

If a word had not been heard then the concept could not be present:

there was one girl who didn't know what a referee was because she had never heard it before TA2 F1

Vocabulary and the depth and breadth of the deaf student's lexicon was discussed in combination with their knowledge in a manner that indicated the two were considered interchangeable terms that equated to each other.

9.3.1.2 Literacy skills (Internal Interaction-Content)

The teaching assistants identified deaf students as having poor literacy skills however they only referred directly to the need to support their vocabulary development and that some deaf students attended mainstream reading support programmes. One teaching assistant did note that texts would become more difficult as the students progressed through the education system;

I think even to access the curriculum ... as they get older, throughout their years from year 7 to year 11, the textbooks they are going to come across the reading that they will be doing – literature I mean- they will be coming across vocabulary that is very difficult for them so if they don't have the basics it's going to be very hard. TA6 F2

However there was no mention of specific intervention or support strategies to address the potential difficulties this may present or how the teaching assistants managed reading difficulties in the classroom. No reference was made to writing skills.

9.3.1.3 Confidence to participate in the classroom interactions (Internal Interaction-Incentive)

Deaf students' confidence to participate in classroom activities was raised frequently. Many deaf students were described as lacking self-confidence to contribute to lessons, answer questions and volunteer ideas. They were considered reluctant to ask for help if they had not understood something, although it was not clear if the difficulties deaf students have in recognising that they have not understood (9.2.2.1) was considered along with this reflection:

I think also the role is to build up the confidence in them to be able to say I don't understand, can you repeat that TA5 F1

Confidence was also linked to communication and the deaf students' language skills and vocabulary (9.2.1.1):

No I don't think he has a lot of confidence...in talking about it [the lesson content] as well, and coming out with the vocabulary. TA4 In. A

Contributing as an equal to a group activity was presented as an important indicator of a students' confidence whilst acknowledging that such forums were not easy for deaf students:

oh yes, he is part of that group and he participates just the same as any other child in there... and you see that's confidence building as well TA2 In. A

Confidence was cited as important for many different facets of the classroom learning experience and was clearly considered an important attribute for success by the teaching assistants.

9.3.1.4 Management of hearing technologies in the classroom (External Interaction-Social Situation)

The management of audiological equipment was one of the first components of daily practice to be mentioned by the teaching assistants and was a recurrent theme throughout all three research cycles in both the focus groups and individual interviews. The following was the initial response from one teaching assistant when asked to describe her role:

Check the teacher is wearing the radio aid and they [the deaf students] can hear the teacher TA3 F1

However some of the participants were unaware of the limitations of the equipment or had an unrealistic notion of the auditory input a student might receive when using such technology:

the students benefit so much from them [radio aids] they don't miss out on anything TA6 F1

Another participant described how she encourages students to use their aids:

You know what we tend to say to some of the children with hearing impairments well you've got super hearing think of it that way you've got much better hearing than you and I TA1 F2

Personal hearing technologies do not replace normal hearing and whilst radio aids can reduce the difficulties deaf students may have hearing a speaker within a classroom they do not eradicate the challenges.

9.3.1.5 Communication Strategies (External Interaction-Social Situation)

The participants frequently referred to the difficulties deaf students experienced when their communication needs were not taken into consideration such as being able to see the speaker's face clearly so they

can speech read. Teaching assistants indicated that teachers frequently forgot to address this, resulting in communication difficulties. One participant referred to regularly needing to:

ask the teachers to remember...just to stay as much in view of the student as they can TA1 In. A

And another:

when the teacher's walking round, she's saying lots of things , she's giving lots of hints she is making little side comments, she's giving little tips and things and they [the deaf students] miss a lot.
TA4 F3

This particular issue was exacerbated when the students were expected to be doing something such as taking notes, watching a video or were engaged in a task and were not aware that the teacher had begun talking again:

They [the deaf students] can't listen and write at the same time so we have to take notes for them" TA3 F3

The teaching assistants also commented on the presence of background noise and the difficulties this creates for deaf students:

my main focus is on A because there is so much noise and...because he misses out bits TA2 In.A

9.3.1.6 Working relationships with peers and staff (External Interaction-Social Situation)

The importance of strong relationships with both peers and members of staff were discussed in relation to deaf students' confidence to be an active member of the class. Teaching assistants also discussed the implications of their own working relationships with other staff members.

9.3.1.6.1 Deaf student and peer relationships

Successful peer relationships were actively encouraged within several schools indicating that they were not always easy to establish for deaf students:

What we do is set up social groups, so where we always encourage the HI students ... to make friends with the hearing students from their class TA6 F3

This was reinforced by examples of a student who had been successful in establishing friendship groups and was considered to be a fully integrated member of the class:

he had a lot of help from his peers as well. He was very sociable, he wasn't quiet and withdrawn. He was very sociable and he had a lot of friends. TA4 In.A

The influence of the mainstream teachers' relationships with the deaf students was described as being an important role model for such peer friendships and working relationships. This is particularly pertinent when combined with the perceived lack of knowledge and understanding of deafness attributed to a significant number of mainstream teachers (9.3.3):

What I truly believe is that ... the attitude of the teacher that depends on [influences] how the rest of the students are going to treat that hearing-impaired student in the classroom. TA4 F3

9.3.1.6.2 Deaf Student and teaching assistant relationships

Teaching assistants also reflected on their own relationships with the students. They felt that there were difficult balances to achieve particularly between providing support and ensuring the student had the opportunity to work independently. See (7.4.1.2). This was further complicated as they endeavoured to ensure the student was able to stay abreast of the conversations that they considered were important to the lesson. The teaching assistants felt they knew and understood the needs of the students more comprehensively than many of the mainstream teachers and as a consequence the students felt more confident asking them a question, rather than approaching the teacher. This added further complexity to the relationships:

Yes they understand you more because they've got this relationship with you they can ask you three times they can't ask the teacher again and again TA2 F3

They find us more approachable than some teachers. Yes they find it easier to talk to us TA6 F3

This invariably reduced the opportunities for the mainstream teachers to develop their knowledge and understanding of the student and illustrated the complex interdependence of these influences within the classroom.

9.3.1.6.3 Teaching assistant and mainstream staff relationships

The teaching assistants frequently commented on their own difficulty in engaging with mainstream teachers on a frequent and formal basis in order to discuss deaf students' progress and response to lessons. They frequently described this as occurring during break or lunchtimes:

We ... don't have that time with the teachers... to plan for the lesson TA6 FG2

what we try to do is fit it [find out lesson plans] in in break or lunchtime TA1 FG2

Indeed in one setting the teaching assistants were allocated a separate staffroom from the teaching staff resulting in even more difficulty in liaising with mainstream teachers.

This was also validated by the mainstream teachers:

there is a limited amount of time that we have to collaborate and to plan and to think and to fill people in on what we're doing T-TA3

well I'll see her in the week and say ... we're going to do this, but sometimes she won't know until... just before the lesson-TA2

The teachers confirmed that they frequently allowed the teaching assistant to take responsibility for the deaf student:

you can leave them [the deaf student], more or less leave them because they've got support T-TA3

He [the deaf student] is on task ... and on his level so I just let them [the deaf student and teaching assistant] get on with it T-TA1

I'm kind of in that lucky position where you don't have to plan that extra bit in because she [the teaching assistant] just knows what to do and how to work with them [the deaf students] T-TA5

The teachers of the deaf also described limited opportunities to meet with mainstream teachers and influence practice:

I think schools generally, ...need to show that they're coping with it [deaf children and inclusion] all. It's almost as if they feel that that's positive thing... "Oh, don't worry the teaching assistants come on your training. She can train the staff..." TOD-A

I can only visit weekly or fortnightly for one hour, now that is never going to meet their [the deaf students'] complete needs TOD-M

I go in once a month, I don't see them [the deaf students] all once a month but there are a couple of kids I do see once a month ToD-C

Whilst some had direct contact with a school special Educational Needs Coordinator SENCO and occasionally with a mainstream teacher, others only met with teaching assistants.

The collective approach of the different schools' Senior Leadership teams were identified as an important influence on the willingness of staff to

engage with the specialist teachers of the deaf and to recognise the differing needs of the deaf pupils:

each school works completely differently, and therefore you have to work with it, and sometimes, it's a nightmare, other times it works really wellSo it's give and take and knowing how to manipulate senior management. ToD-M

it's down to the individual school and what their own beliefs are and where they see the teacher of the deaf in the hierarchy TOD-C

When teaching assistants were able to engage regularly with the teachers of the deaf they felt the advice and input was extremely valuable:

Without her I wouldn't be able to do some of the things that I can do TA2 FG3

She had all the strategies TA4 FG3

She breaks things down even some of the teachers may not understand they may not know much about hearing impairment TA6 FG3

9.3.1.7 Wider expectations: Communication (External Interaction-Wider Societal Situation)

Implicit within the description of the communication challenges experienced by deaf students in mainstream secondary schools is the presence of a socially expected etiquette of spoken communication within different settings and in particular within a school environment. These firmly established cultural expectations made it challenging for mainstream teachers to adjust their approach especially when engaged in teaching a full class of students, the majority of whom need no adaptation to the accepted communication norms. These expectations also lead to misunderstanding as to communication intent for example presuming a student raises his voice because he is angry or frustrated rather than because he is struggling to hear himself in a particularly noisy environment. For example:

He doesn't hear me and then he starts shouting so we need the TA to ... calm him down and just repeat what I'm saying... If he's calm then I think he can hear me all the time, sometimes it's just in his head he's very "ahhhh...", and he's loud and he keeps shouting over me ... so it's his behaviour as well. It's not just his hearing. TA1-T

Interestingly the student concerned described how he found it irritating when teachers whispered:

I understand what's happening, but I can't understand when the teachers are whispering, they're talking low TA1-S

9.3.1.8 Interaction Summary

The findings coded as either Internal or External Interaction form subgroups of the four wider categories: Content, Incentive, Social Situation and Wider Societal Situation. See figure (9-3). The internal interaction skills and attributes of the students the teaching assistants discussed were vocabulary, reading skills and confidence to contribute to class interactions. The external interaction challenges related to the effective use of audiological equipment and communication strategies by others in the environment as well as the spoken communication etiquette expected within a mainstream classroom environment.

The following three sections will consider the data that was categorised within Content, Incentive and Wider Societal Situation whose provenance was not directly linked to interaction by the teaching assistants.

9.3.2 Challenges within the Content Dimension of learning (Internal processes)

The Content dimension of learning encompasses the internal cognitive processes including the acquisition of knowledge; the construction of meaning and the development of skills. The participants described deaf students as having a lack of awareness of their own understanding (9.2.2.1); as visual learners (9.2.2.2) and slower at processing information than their hearing peers (9.2.2.3). Figure 9-5 provides a summary of the subthemes related to the content dimension of learning. The evidence for each will be presented in the following sections.

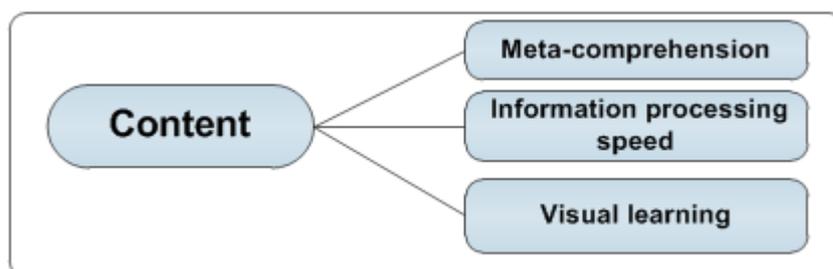


Figure 9-5 Subthemes related to the Content dimension of learning

9.3.2.1 Meta-comprehension

Deaf students' awareness of their own understanding or misunderstanding was raised by a participant describing an incident in which a student had misinterpreted the topic of a history lesson as "castles" when it had been "cattle". He had not been cognisant of his misunderstanding:

he had sat there all the way through and he was writing notes
TA5 F1

The other participants recognised the scenario and contributed further examples:

A second TA in the course of commenting on her own practice also referred to the need for her student to be aware of his own comprehension:

I need him to know that he's made a mistake TA2 In. B

9.3.2.2 Information processing speed

The amount of time deaf students take to process and respond to information was raised on several occasions. It was suggested that deaf students process information more slowly than their hearing peers, which resulted in them being unable to keep up with the flow of the lesson. One participant suggested that this may be an attribute of deafness:

I think it's about the hearing ... they always take time to absorb information... and if it's a lot of information then it'll be hard for them to understand all of it. TA3 In. A

Similar issues were identified by other participants:

She doesn't pick up everything from the lesson because the lesson is so fast paced. TA6 F2

Having identified this as a problem for the deaf students the strategies that were engaged in order to support the student included taking notes and revisiting the lesson content.

9.3.2.3 Visual learners

Deaf students were described as visual learners as they benefitted from having access to visual resources. Such visual reinforcement assisted them to follow a lesson:

I find the HI [deaf] students really benefit when they have visual aids in their lessons TA6 F3

you see A. is a visual learner as well. TA4 In. B

The provision of such resources required preparation and pre-knowledge of the lesson content. This was described as very difficult to achieve as detailed lesson plans were rarely available.

9.3.3 Challenges identified with the Incentive Dimension of learning (Internal processes)

The Incentive dimension of learning refers to the internal processes that ensure the body and mental balance required to facilitate effective learning. See (3.3.2.1). It includes emotions, motivation, confidence and social acceptance as well as physical well-being. The teaching assistants discussed individual students' attitudes towards the use of hearing technologies (9.2.3.1); their social confidence (9.3.3.2) their potential for disruptive behaviour (9.2.3.2) and that the deaf students required greater levels of concentration than their hearing peers which frequently resulted in tiredness (9.2.2.4). See figure 9-6

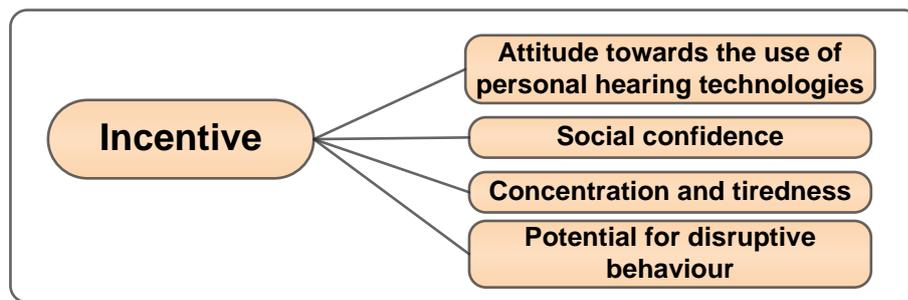


Figure 9-6 Subthemes related to the Incentive dimension of learning

9.3.3.1 Students' attitudes towards the use of personal hearing technologies

A student's attitude towards the use of their hearing aids, cochlear implant processors and FM systems were identified as a potential challenge for ensuring effective communication and academic attainment:

he's not been wearing his hearing aid since year seven...if affects him a lot because sometimes you find he shouts out...I mean you can just tell by his face he is struggling to hear...he would learn a lot more if he had his hearing aids. TA1 In. A

The participants commented that some students do not want to be different from their peers and that they felt their hearing technologies made them different:

They want to be part of the crowd don't they, like everybody else. I think sometimes they want to be normal... hearing. TA6 F2

One participant expressed the struggle she had supporting students to understand the long term implications of their deafness and use of hearing technologies:

they try to sort of make themselves think they can hear when... they can't ... to some extent. So like sometimes one of the students she leaves her hearing aids at home, she has done that a couple of times and then when we'd ask her she'd say "Yes I can hear like everyone". It's so hard TA2 F2

Despite this challenge being universally acknowledged by the teaching assistants they also described other students for whom this was not an issue:

My year 11 student ... [is] an outstanding hearing aid and radio aid user TA5 F2

TA5 spoke very positively about this particular student, describing his success. It appeared that his willingness to wear his hearing technology was considered critical to a positive school experience. This was reflected in other participants' comments.

9.3.3.2 Social confidence in the classroom

The teaching assistants discussed different aspects of the deaf students' social confidence within the classroom. There was agreement among the teaching assistants that deaf children frequently demonstrated low self-esteem and confidence and that this may be reinforced during classroom interactions by being separated from the main class:

there's this big thing about inclusion... We have our little groups of pupils... On one table... just because they are in the classroom does not mean that they are being included TA6 F3

Several comments were made suggesting that the deaf students seemed particularly concerned about how others saw them:

I think they're more conscious about ... what their friends are thinking about them TA1 F2

he just wanted to fit in. He didn't want the attention to be on him. TA5 F2

This became particularly evident as the deaf students became older. A number were described as not wanting the teaching assistant to be with them all the time as it made them different from their peers.

Some hearing-impaired students don't want you to be sitting next to them. They want your help now and again to come and go- as they get older... it's the peer pressure, "Do I look good? Do I look good relying on you? things like that. TA4 F3

The use of humour in the classroom by the mainstream teacher was considered to be particularly problematic, especially if the joke concerned current topical subject matter pertinent to the age group:

Well I think that when they [the deaf students] find out they missed out on a joke that the rest of the class has had a giggle at and the teacher has laughed and they've completely missed it ... Because some deaf children do get offended if somebody's laughing and they don't know what they're laughing at... Did they laugh at me? TA4 F3

One teaching assistant described how friendships between deaf and hearing peers were encouraged in her setting:

We always encourage the HI [deaf] pupils not to stick together but to make friends with the hearing pupils from their class. They can choose a few hearing pupils ... we set these groups up ... right from the start they're not all just stuck together all the HI" [deaf pupils]. TA6 F2

9.3.3.3 Concentration and attention

The level of concentration that was required by deaf students in the course of a lesson was considered to be much greater than for hearing students. The teaching assistants reflected on the potential consequences of this on attainment:

I do believe that HI [deaf] students will always probably be slightly a step back than students who are hearing only because they have to focus more, concentrate more on what's being said TA6 F2

Being able to hear and understand the language being used in the classroom was considered to be the root cause of the increased concentration required:

it's like learning a new language for us at the end of the lesson they are shattered TA5 F1

It was agreed that deaf students tire very quickly and that other members of the classroom community; peers and teachers did not appear to recognise this.

9.3.3.4 The potential for disruptive behaviour

The challenge of disruptive behaviour emerged from the discussion regarding the use of hearing technologies. Most of the participants indicated they had experienced students becoming disruptive and their behaviour deteriorating or becoming withdrawn as they struggled to follow a lesson:

It's just that the child is irritated and getting frustrated and is just going to wander off because... cannot understand the lesson TA 2 In. A

In such cases they described being responsible for ensuring that the student conformed to the expectations of the classroom. This was confirmed by one of the teachers:

but he doesn't hear me and then he starts shouting so we need the TA to really... Calm him down and just repeat what I'm saying TA1-1

The potential for becoming distracted during a lesson was attributed to a wide range of causes indicating the interdependence of many different factors.

The issue of a deaf student becoming withdrawn rather than disruptive only was mentioned briefly.

9.3.4 Challenges identified within the Wider Societal Situation (External influences)

The Wider Societal Situation refers to influences that impact on the classroom culture and organisation, and therefore on the student's learning within the classroom, that originate from outside that environment. The importance of the student's home environment for success in school was introduced early on in the research cycles. The significance of a supportive home for all students was recognised but it was felt that it was especially important for deaf students (9.2.4.1). The emphasis on educational attainment within our society (9.2.4.2) was also evident throughout the discussions. See figure 9-7.

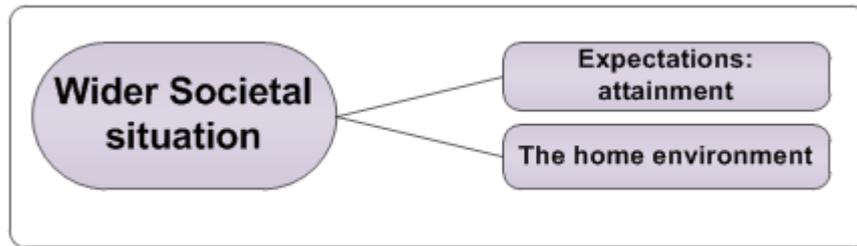


Figure 9-7 Subthemes related to the Wider Societal Situation dimension of learning

9.3.4.1 The home environment and beyond

The potential negative and positive influences of a deaf student's home environment on their subsequent success within school were explored at length by teaching assistants. In particular they discussed the negative impact of expectations that were perceived to differ from those of the school community:

I think it comes from the home if the parents aren't going to be supportive with their children...what is more or less stopping us from helping these children is the support from their parents TA1 F2

Whilst the challenges parents were perceived to present were prominent in these conversations more successful working relationships were also described:

the parents that we have, luckily, they've been really positive TA2 F2

Little consideration was given, however, to influences from beyond the home environment despite the deaf students' inevitable involvement with a wide range of other professionals including doctors, audiologists, possibly speech and language therapists who may have an interest in the deaf student and their development. One example exposed the potential impact of these other factors on parental attitudes:

His parents didn't want him to sign you know and his parents just said right you are normal student...they were told from [by] professionals that he wouldn't speak, to have conversations and they said "No we are going to have conversations with our son and he speaks and lip reads" TA5 F2

However this parental influence appeared to also create a challenge for the student when he attended a day organised for local deaf students:

He really struggled with it because he hasn't been brought up in that environment he has never been to anything ... where they have the days for the deaf- for the cinema and things like that-he doesn't want to be part of that-and he really struggled with that day. TA5 F2

This scenario highlights many other potential layers of influence on a child's learning experience in school.

9.3.4.2 Expectations of attainment

Knowledge acquisition, as measured by success in public examinations, was described by the group as the primary purpose of education and that it was important deaf students gained some qualifications. During the course of the discussions it became apparent that the grades deaf students were expected to achieve were lower than those for the hearing students:

my year 11 boy he's getting his Cs which is fantastic - profoundly deaf and he's on his Cs for most of his subject he's such a hard worker TA5 F1

The lower expectations of deaf students was also reported as influencing strategic decisions in some schools and therefore were part of the wider school expectation. This was particularly evident in respect of certain schools' modern foreign languages policy:

There's no point in them [the deaf students] being in a language lesson when they're not able to access English, let alone a foreign language so they [the teachers] take them [the deaf students] out of the modern foreign language lesson TA4 F2

If a deaf student is not being permitted to engage in a subject then they will not have the opportunity to alter such expectations. How such a strategic decision impacts on the confidence and self-esteem of a student was not explored.

9.3.5 Finding 1: Summary

The Complex Learning Model adapted for deaf learners CLF(DL) has provided a framework through which to view, and begin to group, the internal and external challenges that influence deaf students' learning within a mainstream secondary school. As well as challenges related to Interaction the CLF(DL) facilitated the identification of challenges that are associated with Content, Incentive, the Wider Societal Situation and Social Situation of the classroom. Whilst the challenges were associated with different dimensions of learning, based on the context in which the teaching

assistants described them, it was clear that they represented different facets of a complex situation.

Having considered the evidence from the data that is identified as directly influencing the deaf student I shall now consider the responses from the teaching assistants that concerned other members of the social situation. These included teachers, teaching assistants and the deaf students' peers.

9.4 The social situation of the mainstream secondary classroom

The presence of a deaf student within a mainstream classroom effects a change within the social situation particularly when a teaching assistant is present to provide support. This is likely to result in a redistribution of responsibilities and practice among the staff which may lead to unexpected and unrecognised consequences. Such adjustments may be as a result of the internal processes and external influences on the deaf student which shape the interactions with others and the pedagogical practices that are employed. The reality of these differences will be unique for each student however the teaching assistants revealed common experiences: prioritisation of effective communication and access to the lesson delivery (9.3.1); mediated learning and teaching (9.3.2) and mainstream teachers' knowledge about deafness (9.3.3).

9.4.1 Finding 2: Communication and access to the lesson

The teaching assistants frequently discussed both communication and knowledge acquisition, highlighting them as particularly challenging for many deaf students. They regularly associated less successful knowledge acquisition with poor communication. They prioritised effective communication and access to the lesson within their support practices by endeavouring to ensure that the students could hear what was being said by the teacher. Even challenges such as students not wishing to be different from their peers (9.3.3) were identified because they ultimately impacted on communication or knowledge acquisition.

All the teaching assistants agreed that the effective use of audiological equipment was a primary responsibility in order to ensure deaf students were able to hear what was being said and that this facilitated knowledge acquisition. The two themes were very closely connected:

We test the hearing aids ...to make sure they are working because if they're not working they're not going to pick up much in class TA6 F1

The teaching assistants were aware that the deaf students missed contributions from their peers:

when the teacher is talking she is using the radio aid that's perfectly fine but when you have a class discussion and everyone is contributing ...passing the radio aid to the different students ... I still think they don't hear as effectively, they're not able to focus TA6 F2

One teaching assistant clearly identified communication and knowledge acquisition as the priorities for her practice:

make notes ... jot down the key points, jot down the keywords so that you've got them as a reference if they [the deaf student] needs them. Make sure that you are ... aware of the teacher and student; can the student see the teacher clearly; can he [the deaf student] hear ...in a good place; has he got the radio aid on; good seating position TA5 F1

This was representative of all the participants' comments describing the main aim of their role as assisting the deaf student to hear what was being said and to fill in the gaps in their knowledge acquisition generated by ineffective communication.

9.4.2 Finding 3: Mediated learning experiences

The teaching assistants revealed that in order to overcome some of the communication difficulties deaf students frequently acquired information from a source other than the teacher, i.e. either from themselves or the deaf students' peers, both during and after the lesson. This suggested that the deaf students were frequently engaged in a mediated learning experience. Teaching assistants described this as placing a barrier between the student and the teacher that resulted in the class teacher being less familiar with the students' needs than they should be.

The following example was provided by a teaching assistant commenting on her own practice:

So that was showing him...because it was completely wrong...so I was writing it down, working through with him to show that actually doubling it was completely wrong. TA5 In. A

Within another maths lesson a different teaching assistant described her approach:

after the lesson you'd go through everything make sure they've understood; do any key vocabulary things. TA4 Int. A

Students also confirmed this approach:

Because some, most of the time I get stuck in lessons and Miss wants to help you to explain what to do TA4-S

One class teacher described what she expected of the teaching assistant:

*To explain again, to reiterate what I have said in case they've not heard it the first time and just to clear up any misconceptions
TA4-T*

A second teacher described the teaching assistant as being there to:

explain when he doesn't understand what I'm saying TA1-T

The teaching assistants also described themselves as having subject specialisms or being allocated to different subject areas which enabled them to become familiar with the curriculum content and delivery and therefore support the deaf students more effectively. This resulted in students being able to approach a particular teaching assistant for support if they were having difficulties in particular subject areas:

*so if I was supporting somebody in English and that student was stuck on their English then I would know what to do with them.
TA6 F1*

Again this was confirmed by the mainstream teachers:

At the end of the day ... I know that the TA will know the material in advance because it is material we have used before. TA6-T

Deaf students also turned to their hearing peers to assist in following a lesson delivery:

*Because very often... they [the deaf student] will, they'll just be copying off ...off the board and things like that ...J. does a lot of that he'll just copy everything off whoever is sitting next to him
TA2 F3*

It was suggested that pairing a deaf student with an able hearing student was a strategy used by teachers to provide peer support:

*They tend to sit them... and if the TA's can't be with them all the time... they sit at the front and put them with an able student TA2
F1*

One of the teachers confirmed this was an approach that she had used and that the student benefitted from having someone to discuss the lesson with:

we thought he needs to sit on his own so nobody can disturb him, but now I'm thinking he's better with the person next to him because they can talk together TA1-T

9.4.3 Finding 3: Mainstream teachers

The teaching assistants regularly expressed their frustrations with mainstream teachers and described them as not being aware of the implications of deafness for students. These frustrations were raised in the initial focus group meeting with the Data Group and the Consultancy Group were keen to ensure that this finding was given sufficient emphasis. The participants illustrated this by describing a range of different challenges particularly with regards to communication and pedagogical practices that resulted in the teaching assistants subsequently needing to intervene to ensure the student was engaged in the lesson; actions that they suggested would not be required if the teachers were better informed.

A number of the teaching assistants felt the initial hurdle was reminding some teachers that the class included a deaf student:

unless they wear hearing aids, you can see teachers forget so they are treated exactly the same as everybody else TA5 F1

Ensuring effective communication between the deaf student and the teacher was considered as a key part of the teaching assistant role. Two teaching assistants described challenges dealing with teachers who appeared not to appreciate even the basic communication difficulties deaf students encountered by being unwilling to use the audiological equipment provided:

We had an incident where a teacher didn't feel he [the student] needed his radio aid... and it was "Well he seems to be able to hear me" and it was "Well actually he can't" TA5 In. A

A similar incident was described as resulting in a student ultimately rejecting the audiological equipment:

There's a teacher who's gone ... "Oh no, no, no she [the student] answers me back when I talk to her"- and this was a senior management teacher who's supposed to reinforce such things inclusion and things ... "No, no I don't need to wear the radio aid because when I call her [the student]... she turns around and looks at me". That child has now handed back her radio aid" TA2 F3

A further example regarding sound field systems that were not always used:

We've got the sound field systems... but again it's getting to use them some teachers do feel it takes up a lot of time to set it up and... adjust ...they say it is time consuming or a hassle TA1 In.

A

This lack of understanding of the potential benefits of the technology for the deaf students was reinforced by the students who described challenges encouraging teachers to use the audiological equipment effectively. One student describing an incident in which her radio aid was not working, the teacher passed the transmitter to her to sort it:

when you pass it up [back] he'll go put that down and let me speak first, and then I'll take it. TA6-S2

Students also described their irritation when some teachers addressed them without a clear understanding of their communication needs, for example:

Yes but sometimes when I ask a teacher for help she will tell me very slowly as if I'm dumb...I'm not that dumb! TA6-S1

She also commented that teachers' responses can be frustrating:

Sometimes the teacher will go why aren't you listening...you should read the question again. But I did I read it like five times TA6-S1

A second student was frustrated when she was reprimanded for trying to discuss the lesson with her peer in order to understand what was happening:

Yes and the teachers tell us off: "Why are you talking to the person next to you?" TA6-S2

Teaching assistants commented on pedagogical practices that indicated the teacher had not fully considered the deaf student in their delivery.

For example included the use of video or "YouTube" clips without subtitles:

...watching a video of the rainforest, it's fair enough it's visual, but the thing is hearing-impaired students cannot hear over the background noise of projector stuff like that and subtitles would just be just brilliant, but ...old videos ... have no subtitles. TA2 F1

Another was teachers expecting students to take notes whilst watching a video or listening to the teacher talking:

At times I found when the teacher is talking she is saying ... make notes TA2 F3

This was however recognised by one of the mainstream teachers as an issue and she described how the teaching assistant would manage the situation:

while he lip-read and listened to the explanations ...she would actually write it down for him TA4-T

The teaching assistants felt that a proportion of mainstream teachers considered the challenges the deaf student faced would be dealt with by their presence:

“What I find is some teachers just think oh you’re deaf [the student] so Miss [the teaching assistant] will look after you TA2 F1

The teaching assistants agreed that the use of humour was particularly useful in demonstrating how teachers may not fully appreciate the manner in which their interaction with the class may adversely affect deaf students. Humour can very easily lead to a deaf student being marginalised and feeling isolated from the class group:

Well I think that when they [the deaf student] find out they’ve missed out on a joke that the rest of the class has had a giggle at-and the teacher has laughed -that they've completely missed out-that completely puts them that far back... “Oh Miss I missed out on that!”... that can result in bad behaviour right away... because some deaf children do get offended if somebody's laughing and they don't know what they're laughing at... “Did they laugh at me?” And they are very offended... “Was the joke about me?” TA2 F3

This discussion around the use of humour in lessons illustrates the complex convergence of factors that influence deaf students’ engagement in mainstream classrooms.

Criticism of mainstream teachers’ understanding of the impact of deafness within the classroom was particularly evident during the focus group discussions and through the discussion of shared experiences. Within the individual interviews when teaching assistants were commenting on a particular lesson they were less likely to be critical of their colleagues.

9.5 Reflection on the analytical process

The analytical process based on Illeris’ Complex Learning Model adapted for deaf learners and Rabiee’s (2004) thematic analysis, revealed a diverse range of internal processes and external factors that directly impact on the deaf students’ learning experiences in a mainstream secondary classroom. The intention of this process was not to imply that these categories: Content, Incentive, Social Situation, Wider Societal Situation and Interaction

represented discrete areas of influence despite being linked to different areas represented within deaf students' learning and education research literature. Rather the purpose was to expose different facets within a holistic perspective that exist within the complex social environment of the classroom and to consider how they coexist within the particular social situation. By using these predetermined categories it provides the opportunity to consider the findings in respect of the current evidence base to support the discussion, particularly with respect to student's learning and development. Such an approach, however, may serve to reinforce current thinking rather than pave the way for new perceptions; potentially consolidating notions that are limiting our ability to determine new explanations that may contribute to our understanding of deaf students' learning in the mainstream classroom. Different theoretical frameworks, through which to view the data, may well lead to different perspectives.

Throughout the analytical process it became evident that the internal process of learning and the external influences on learning and how they combined to impact on an individual's learning experience were not easy to categorise. There were many connections between them that demonstrated a network of influences and counter influences. Most of the challenges raised by the teaching assistants could be linked to many different sources, unique to each individual. For the purpose of this research the challenges were categorised by the links made by the teaching assistants, in relation to broad areas of learning identified in the research literature. This of course presents just one perspective of learning experiences in the mainstream classroom environment.

9.6 Summary

This chapter describes the findings and supporting evidence of the internal processes and external influences, from the teaching assistants' perspectives, that create challenges for deaf students' learning within mainstream secondary classrooms. The analytical process, based on CLF(DL) and Rabiee's (2004) thematic analysis, uncovered a diverse range of internal processes and external factors that directly impact on the deaf student.

The analysis also identified three findings with respect to the response of others, teaching assistants, teachers and peers, to a deaf student member

of the class. These responses resulted in further challenges for the deaf student. Firstly, effective communication and access to lesson delivery within the classroom were identified as priorities and therefore formed the focus for the teaching assistant support. Secondly deaf students were frequently described as being taught via a third party, a teaching assistant or supported by a peer, resulting in a mediated learning experience. Thirdly the teaching assistants were explicit in their criticism of mainstream teachers. They considered many lacked basic awareness of the communication needs of deaf students which frequently led to deaf students being unable to engage directly in the classroom interactions.

Chapter 10

Discussion 2: Deaf Students' Learning Experiences

10.1 Introduction

Teaching assistants described a range of challenges deaf students experience when learning in the mainstream classroom. The challenges were identified as such because they predominantly impacted on deaf students' hearing and knowledge acquisition. Many of the challenges were also strongly associated with a range of internal processes of, and external influences on, learning as illustrated by the CLF(DL).

The chapter will begin by discussing the challenges identified by the teaching assistants as directly concerning the internal process of and external influences within the Interaction dimension of learning (10.2). This will be followed by discussion of the challenges categorised within the Content (10.3) and Incentive (10.4) dimensions and then by discussion of the Wider Societal Situation (10.5).

The teaching assistants identified a range of factors that originated within the internal processes of learning and as a consequence of external influences that present challenges for deaf students. From this evidence I will argue that deaf students may be more frequently exposed to accommodative learning than their hearing peers, in an environment that is constructed to support assimilative learning.

10.2 Interaction

Interaction with others and the environment, through our senses, is the means by which we learn about our world (3.2). Our interaction with others is predominantly facilitated through language. Language also provides a tool for thought and an essential tool for mediating learning. The impact of deafness on language development has been central to the field of deaf educational research (4.2) however this was not evident in the description of secondary school classroom practice described within this study. Rather the discussions concentrated predominantly on ensuring the deaf students were able to hear what was being said by the teacher or their peers, with the effective management of audiological equipment featuring strongly in the discussions.

This may suggest a disconnection between research and practice indeed the study of language development within the classroom environment is not a strong feature within deaf education literature. The themes identified within the Internal Interaction Dimension, see figure 10-1, include brief references to language and literacy in particular vocabulary and reading skills and the confidence to contribute to lesson discussions (10.2.1). The themes identified within the External Interaction dimension include the management of audiological equipment; use of communication strategies; working relationships with peers and staff and expectations of communication abilities (10.2.2).

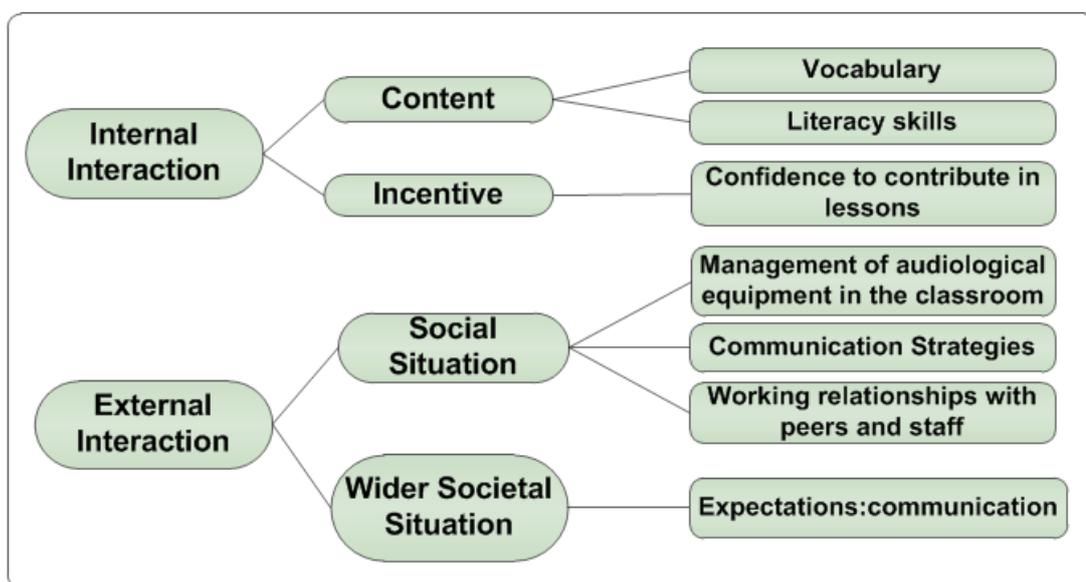


Figure 10-1 Themes within the Internal and External dimensions of learning

10.2.1 Internal processes: language skills; literacy skills and confidence for interaction

The teaching assistants made scant reference to students' language skills and none to their language development. They referred only to the importance of vocabulary and in particular to key words related to curriculum content. Whilst having a smaller than average lexicon is identified as a prominent issue for many deaf students (Griswold and Commings, 1974, Kiese-Himmel, 2008, Lucker and Cooke, 2010, Coppens et al., 2012, 2013, Percy-Smith et al., 2013), this only begins to address the areas of language use in which deaf students may benefit from support. For example effective and flexible use of vocabulary requires syntactic competence, identified as potentially challenging for deaf students (Kelly, 1996, Lederberg et al., 2013). Morphological and narrative skills are also identified as potentially problematic (Geers et al., 2003,

Nielsen et al., 2011, Boons et al., 2013b, Boons et al., 2013c), narrative skills are particularly important within secondary education as students are increasingly expected to explain their understanding of a concept in an extended narrative or a written passage as they progress towards formal examinations.

The only area of literacy development the deaf students were described as receiving additional support for was reading. The teaching assistants indicated that a high number of the deaf students they worked with received extra tuition which was predominantly undertaken as part of the mainstream literacy support for example allocation to a Reading Buddy Scheme, rather than as specialist intervention. There is, however, a strong correlation between deaf students' language and literacy skills (Kyle and Harris, 2006) and there is a significant body of research that has investigated deaf students' reading and writing skills, see Knoors and Marschark (2014). This again may suggest a disconnect between research and practice within deaf education.

The teaching assistants clearly identified the importance of the students' confidence to become involved in curriculum based discussions in the classroom. They indicated that deaf students were frequently unwilling to participate in class or group discussions or contribute answers to questions. It is only relatively recently that research has begun to address the social issues associated with deafness in respect to learning; how social skills may influence a deaf student's engagement in the classroom and the subsequent impact on the students' academic outcomes (Caprara et al., 2000, Antia and Kriemeyer, 2003, Antia et al., 2011). The teaching assistants described the deaf students as not having the confidence to express their own ideas and as taking longer to process a question than their hearing peers frequently resulting in the answer having been provided by a peer by the time the deaf student was ready to make their contribution. This pragmatic use of language, i.e. how language is used in different social situations to express and understand ideas, has been identified as a potential area of difficulty for many deaf students (Dammeyer, 2012, Goberis et al., 2012). It has been linked to their less well developed understanding of language structures (Most et al., 2010) and demonstrated to present particular challenges in requesting clarification when communication breaks down (Jeanes et al., 2000). These are clearly pertinent in a classroom environment where students are being introduced to and developing new, possibly challenging, concepts. Indeed a high positive correlation has been identified between deaf students' pragmatic language skills and their academic

outcomes, regardless of whether they use signed or spoken language (Thagard et al., 2011). There was no evidence that these findings shaped classroom practice for the mainstream teacher or teaching assistant. The evidence from the study indicates that deaf students were more passive in the classroom than many of their hearing peers and suggests a need to consider this area of language use within the classroom environment and how this might impact on learning.

Whilst the issues of vocabulary; reading and having the confidence to contribute to class discussions were identified as separate issues they are clearly associated with each other. Poor vocabulary retention and reading skills are likely to lead to low confidence and an unwillingness to contribute ideas and enter into a discussion with peers. By not contributing to the general class discussion the deaf students are less able to develop and practise the skills required to express their own ideas. Research identifies that deaf students frequently struggle with a wide range of linguistic skills (Schick et al., 2006, Spencer and Marschark, 2006) even if they have been identified early and had successful support (Boons et al., 2013b, Boons et al., 2013c, Geers et al., 2003, Geers et al., 2009, Geers and Hayes, 2011, Harris and Terlektsi, 2011). It is particularly important to note that very little reference was made to students' individual linguistic and reading development particularly as the language demands of the curriculum increase and the students and teachers focus their attention on public examinations.

10.2.2 External influences: attitudes, expectations and working relationships

The dominant feature of discussion relating to the Interaction dimension of learning in the classroom was the management and effective use of audiological equipment including the students' hearing aids or cochlear implant processors as well as assistive devices such as radio aids and sound field systems. See (9.2.1.4). It was also reported to be the focus of the training teaching assistants had attended. Clearly ensuring that deaf students who communicate using any level of spoken language are able to hear, to the best of their ability, what is being said is a fundamental part of the interaction process. It also in part begins to address one of the 'barriers to learning' (Department for Education and Department for Health, 2014) that occur within the mainstream classroom. However the benefits the technology is able to provide were frequently over estimated.

Different members of the classroom community, including teachers, were regularly presented by the teaching assistants as having incorrect expectations of the interaction capabilities of a deaf student within the classroom environment. They noted that teachers, parents and peers frequently did not understand the limits of the audiological technology (Vincenti et al., 2014, Archbold, 2010, Wilson, 2008) and there was a misperception that it allowed the user to function as a hearing person. Interestingly a number of the teaching assistants also revealed their own limited knowledge in this regard.

Personal experiences of hearing loss and deafness will shape an individual's attitudes towards managing communication with a deaf person. As deafness is a low incidence disability many educational professionals will not have worked with a deaf child and will have little experience of deafness in childhood. Most of their experience with deafness is likely to be as a result of encounters with older members of the population who develop a degenerative hearing loss. Until relatively recently hearing loss in childhood would have been discernible through the speech patterns of the individual, reflecting what they were able to hear, or through their use of sign language. New technologies, by providing full access to speech, have allowed many deaf individuals to develop speech patterns that do not alert a listener to their hearing loss. This may lead to incorrect expectations of the deaf student's linguistic capabilities and their ability to communicate effectively within the classroom environment (Wheeler et al., 2004). None of the technology has the capacity to replace normal hearing and whilst some deaf students may be able to function very effectively in a one to one discussion in an acoustically favourable environment supported by their hearing technologies (Nicholas and Geers, 2013) their ability to follow a conversation is easily compromised by the introduction of more conversational partners or the presence of background noise, particularly other voices (Hochberg et al., 1984, Boothroyd, 2002, Ching et al., 2006).

If mainstream educational practitioners do not recognise the nature and extent of the difficulties with communication that deafness presents a student they are less likely to actively acquire the knowledge and understanding required to adapt their interactions and pedagogical practices. This would seem to be supported by the teaching assistants' description of poor use of audiological equipment and limited implementation of communication strategies. The mainstream teachers reinforced this with several stating they expected the teaching assistants to take responsibility for the audiological equipment and ensure the equipment was functioning effectively so as teachers they were able

to concentrate on other matters. The deaf students described being frustrated by the poor use of the equipment and also by teachers not recognising their need to lip-read; speaking too quickly and speaking for extended periods of time. This mirrors the findings of Wheeler et al. (2004) in their investigations of deaf cochlear implant users' experience of mainstream secondary settings.

In an environment specifically dedicated to interaction and the transfer of information from one individual i.e. the teacher, to a number of others i.e. the students, the attitude and expectations of the teacher will influence the quality and effectiveness of the interaction with individual students. It would seem reasonable to suggest that for an effective working relationship to develop between a student and a teacher that the teacher needs to interact directly with the student to develop their understanding of the students' language and communication skills. It is important to note that those students who are judged most likely to experience difficulties interacting effectively within a classroom are the ones who will receive the highest level of support from a teaching assistant. The teaching assistants commented that for many teachers the presence of the teaching assistants significantly reduced that amount of time the teacher engaged directly with the deaf student and supports similar findings (Giangreco, 2007, Blatchford et al., 2009b). This may be particularly challenging to address in a secondary setting because of the limited time any one teacher spends with an individual student. It would be valuable to investigate educational professionals' perceptions of deaf students' communicative capabilities and how it informs their approach and pedagogical practices within the classroom.

The teaching assistants also considered the influence of parents' attitudes on their students' interactions within the classroom even though the parents are not directly involved within it. Several of the participants felt they detected a negative attitude from home particularly towards the use of audiological technology which resulted in some students' reluctance to wear their devices. Others reported a more positive attitude. Parents' influence and impact on the development of deaf students and in particular their language skills has been widely documented (Geers and Brenner, 2003, Spencer, 2004). It has predominantly centred on the child's early development and the nature of the linguistic environment of the home (Sarant et al., 2009, Zaidman-Zait, 2007). Research into spoken language development has included the impact of parents' attitudes towards the use of personal audiological technology such as hearing aids and cochlear implant processors (Archbold, 2009, Novaes et al.,

2012). Parents receive support from a wide number of services in the preschool years to assist them in supporting their deaf child. Traditionally within the UK this support has transferred almost exclusively to the professionals and child within their educational setting once they start in full time schooling. During a child's formative years parents can significantly influence the attitudes of young students and support them in overcoming their reluctance to use audiological technology. However as young people become more autonomous, in their teenage years, such influence may not be as effective and the youngsters may be more influenced by their peers. The teaching assistants also discussed this potential source of pressure but considered that behaviour management in schools, including clear policies on bullying, meant that this was less likely to be the cause of the problem than the attitude of parents.

10.3 Content

The Content dimension of the Complex Learning Model adapted for deaf learners encompasses the internal processes of learning including the acquisition of knowledge; the construction of meaning and the development of abilities and skills. Even with evidence to indicate that many teachers consider that removing the communication barriers will enable deaf students to learn using the same processes, as their hearing peers (Marschark and Knoors, 2012), the teaching assistants identified a number of challenges for deaf students that indicate this is not the case. Challenges categorised as Content resonate with recent research identifying differences in the cognitive functioning of deaf students. These included meta-comprehension (10.3.1); speed of processing information (10.3.2) and visual learning (10.3.3). See figure 10.2. Interestingly there was no indication that interventions or strategies were in place to address these issues or that the challenges they present were acknowledged within the classroom environment for the deaf students. this reinforces the notion of a disconnect between research and educational practices.

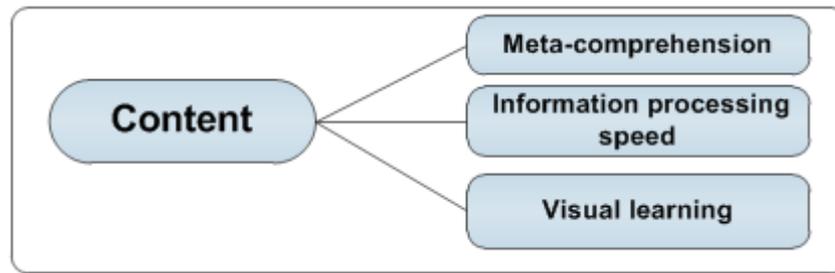


Figure 10-2 Challenges within the Content Dimension of learning identified by the teaching assistants

These different aspects of cognitive functioning are not discrete processes and connections between the different aspects are evident in the literature and were apparent in the teaching assistants' discussions.

10.3.1 Meta-comprehension

The issue of a deaf student's ability to monitor his own comprehension was raised early on in the research process. One participant described her surprise when she became aware that an able deaf student had been engaged in a history lesson assuming the focus was "castles" when in fact it had been "cattle" and that he had not been aware of his own misunderstanding; the initial error having occurred, presumably, through mishearing the word "cattle". The meta comprehensive skills of deaf students, being aware of their own comprehension or lack of comprehension as illustrated here, were initially examined in relation to the reading comprehension of deaf students. Many studies have highlighted deaf students' poor reading attainment and research indicates that their ability to monitor their own understanding of a text would appear to be a contributory factor (Gibbs, 1989, Kelly et al., 2001, Borgna et al., 2011). More recently it has been identified that the self-monitoring of comprehension of a lesson, that may include processing both voice and text, may also be problematic for deaf students (Knoors and Marschark, 2014). Marschark et al. (2005) and Borgna et al. (2011) suggested that deaf students were more likely to misjudge their understanding of the content of a lecture than their hearing peers, frequently assuming greater comprehension than they had in fact attained. Research to determine the extent of the overestimation of comprehension amongst younger school aged deaf students has not been undertaken. Having been identified by participants within this study as occurring within a secondary classroom it would be valuable to investigate its prominence and subsequent impact on learning within the classroom environment.

10.3.2 Information processing and working memory

The length of time taken by deaf students to process information was mentioned frequently by the teaching assistants. This was viewed as particularly problematic in the classroom environment frequently resulting in the student being left behind endeavouring to resolve a problem or question as the remainder of the class moved on to the next stage of the lesson. The capacity to hold information and manipulate it simultaneously is referred to as Working Memory (Badderley and Hitch, 1974, Badderley, 2000). (See 4.4.3)

The capacity of working memory is limited for everyone and should a deaf student need to engage different and more extensive processing, as a result of their past experiences or limited ability to access information from their environment, it will lead to the loss of potentially crucial information that will subsequently impact on their ability to complete the learning task (Alloway, 2006). Potentially all aspects of the working memory model are likely to demonstrate differences when applied to a deaf learner because of the increased challenges the deaf student faces in accessing the information in comparison with a hearing peer. The phonological loop, for example is likely to be differently engaged for a deaf student as they endeavour to process the language based information whether spoken or signed. Within a mainstream classroom environment a teacher has to make assumptions as to the capacity of the students within their lesson to process and attach meaning to the curriculum content to be delivered. This will be based on the mainstream teacher's knowledge and practice of working with students who do not experience the same demands on their working memory as a deaf student. It may therefore result in unanticipated excess demands on the deaf students' working memory. If the demands on working memory exceed capacity it is likely to result in the student not making the necessary development in that particular learning step, which in turn will impact on the assimilative nature of the learning anticipated during the educational process (Gathercole, 2004). Some of the challenges posed for deaf students' working memory have been illustrated by studies which have explored problem solving. These reveal that deaf students demonstrate differences in their use of language; the application and transfer of knowledge and skills, as well as the visualisation of problems. (Pagliaro and Ansell, 2002, Ansell and Pagliaro, 2006, Bull et al., 2005, Blatto-Vallee et al., 2007). The studies in general conclude the extra load required on deaf students' working memory creates additional challenges for them that are not experienced by their hearing peers.

Deaf students' ability to process information is also likely to be affected by their ability to recall previously encountered information. The teaching assistants commented on the length of time deaf students required to recall information and they attributed this to poor memory skills. They considered that the deaf students' frequently limited vocabularies were indicative of this. It is well documented that deaf students are likely to have smaller and more idiosyncratic vocabularies than their hearing peers (Griswold and Commings, 1974, Kiese-Himmel, 2008, Lucker and Cooke, 2010, Percy-Smith et al., 2013). Research also indicates that the links and connections between words are less strong (Marschark et al., 2004) and consequently "*...there are qualitative differences in both organization and application of that knowledge that influence performance.*" (p.59). Being able to access their knowledge of words and link them with other associated words and concepts in order to make sense of a situation or text as illustrated by the CI model of reading (section 4.4.5) and link it to previous knowledge often appears to be a slower process than for their hearing peers. There is a clear need to develop evidence based strategies that address the differences in deaf students working memory if they are to be able to maximise their learning within a mainstream environment.

10.3.3 Visual Learning

Teaching assistants described the use of visual resources to assist deaf students in recalling and processing information. They frequently referred to the deaf students as visual learners as a consequence of the benefit of visual resources in supporting the students' memory and engagement. Research suggests that deaf individuals' memory may differ from that of hearing individuals in their use of sequential and visual memory skills. However it indicates that rather than this being a result of a loss of hearing it strongly correlates to their prevailing language modality; spoken or signed. Those individuals who predominantly communicate through sign language develop stronger skills in visual memory, particularly for details within complex diagrams, than do hearing students and adults (Todman and Cowdy, 1993, Hall and Bavelier, 2010). Deaf students and adults whose primary language is in the spoken mode, and particularly those who demonstrate good phonological processing, perform better with sequential memory tasks. (Hall and Bavelier, 2010). All the students the teaching assistants worked with in this study were predominantly spoken language users. It is possible, therefore, that the teaching assistants' concept of a visual learner was a learner that benefitted from frequent visual reinforcement rather than a person that was able to

process visual information particularly effectively. Either way the use of such resources was described as beneficial for these students possibly as a means to support their word recognition and working memory.

10.4 Incentive

The Incentive Dimension of the CLF(DL) refers to the internal processes that ensure the body and mental balance required to facilitate effective learning. It includes emotions, motivation, confidence and social acceptance as well as physical well-being. The importance of social, emotional and physical wellbeing for success in the classroom is well documented for all students (Garner and Waajid, 2012, Durlak et al., 2011, Izard et al., 2001, Rhoades et al., 2011). It may be especially important for deaf students, potentially having a greater impact on their academic outcomes than their language development (Leigh et al., 2009). A number of issues were categorised under Incentive, including students' attitudes towards the use of their technology (10.4.1); the potential for disruptive behaviour (10.4.2); social confidence (10.4.3) and attention and fatigue (10.4.4), illustrated in figure 10.3.

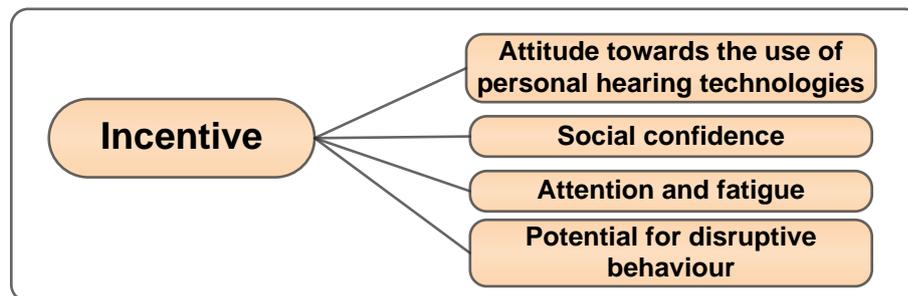


Figure 10-3 Challenges within the Incentive Dimension of Learning as identified by the teaching assistants

10.4.1 Attitudes towards the use of hearing technologies

Certain students' unwillingness to use hearing technologies such as hearing aids and cochlear implant processors was considered to be detrimental to their engagement in the classroom and subsequently to their learning. This supports the findings of Reed et al. (2008) in a study of 25 deaf students to determine the factors that supported and detracted from the students' academic success. The limited use of hearing technologies was identified as a primary detrimental factor. The reasons a young person may choose not to wear and make use of the devices are difficult to ascertain as illustrated within the discussions between the teaching assistants. There was reference made to the influence of

parents and peers; possible issues regarding bullying; young people not wanting to be different from their peers and the students stating they are able to manage without them. There is limited research that investigates the unwillingness to use technology amongst school aged students although some studies have been undertaken in the field of cochlear implantation in order to inform selection criteria (Watson and Gregory, 2005, Archbold, 2009, Özdemir et al., 2013). A recent study Linssen et al. (2013) with eleven adults who chose not to use their hearing aids cited a variety of reasons for their choice including their own evaluation of the benefits of the technology; who was responsible for the non-use, themselves or another individual, as well as the attitudes of others. They expressed a wide range of emotions including indifference, guilt, frustration and shame. Although the participants were aged between 54 and 80 years there is no reason to suggest that teenagers do not also experience this range of responses. There is a need to investigate this further.

10.4.2 Social confidence in the classroom

Throughout the research cycles the participants commented on deaf students' frequent lack of social confidence in the classroom attributing it, at least in part, to the challenges the deaf students faced in engaging with the lesson delivery. The challenges the teaching assistants described were as a consequence not only of the deaf students' innate abilities and knowledge but also of the environment and the responses of other individuals within it. Deaf adolescents, who appear to have no additional challenges, have been identified as likely to have low levels of self-esteem (Schmidt and Cagran, 2008); consider they are less socially acceptable and have fewer close friends when compared with a group of hearing adolescents. (Leigh et al., 2009, Loeb and Sarigiani, 1986). The less well developed pragmatic language skills of deaf students may contribute to lower self-esteem however recent studies suggest that the acquisition of age appropriate language skills, as demonstrated by a number of the students in this study, is not all that is required (Martin et al., 2011, Holt et al., 2012). Martin et al.'s (2011) study, undertaken with young deaf students, observed a high level of communication break down during play sessions. They observed that age appropriate language skills did not always result in the deaf child being confident in social situations despite demonstrating levels of self-esteem comparable with their hearing peers. Often they would be happy to play with a single hearing peer but were less willing or indeed found it more difficult to contribute equally to a social situation that involved more than one other child. They concluded that the confidence of the deaf child to manage and

redress this provided “...*the distinction between a successful play session and an unsuccessful one* ...” p117 (Martin et al., 2011). Whilst this study was with younger students the results resonated with the deaf students’ confidence and interaction within the classroom as described by the teaching assistants.

10.4.3 Attention and fatigue

With the increased demand on deaf students’ working memory, the challenges they face in recalling information and in hearing what is being said within a classroom environment, it is not surprising that the teaching assistants described them as tiring more easily than their hearing peers. This is reported anecdotally by parents, students and teachers and was, therefore, not an unexpected finding. Whilst the negative impact of tiredness on academic performance is recognised (Ravid et al., 2009) this has not been extensively investigated for deaf students. There is some empirical evidence to support the notion that the increased attention required by deaf students particularly when listening in background noise resulted in tiredness and slower reaction times (Hicks and Tharpe, 2002). Hornsby et al. (2014), confirmed the increased likelihood of fatigue for deaf students. This study indicates that the complex nature of the classroom; the internal processes and external influences on learning for deaf students may in itself be a source of fatigue.

The findings outlined above suggest that currently the mainstream secondary classroom may be a stressful environment for deaf students which may lead to a lack of confidence and fatigue even if they have age appropriate language skills. Recent research has indicated that relatively straightforward adaptations can have a significant impact (Guardino and Antia, 2012) and basic training is often provided for teaching staff to equip them with the strategies to support communication and access to the curriculum for deaf students within their classrooms. It would appear that this is not always implemented. It highlights the need for further investigation to determine the causes and be able to propose possible strategies to manage such tiredness.

10.4.4 The potential for disruptive behaviour

Deaf students’ frustration with their inability to hear what was being said and to engage directly with a lesson was described by the teaching assistants as a key trigger for disruptive behaviour. The importance of being able to engage students in the class based activities to avoid both disruptive and withdrawn behaviour, both of which are associated with poorer academic outcomes, is well established (Finn et al., 1995) and specifically for deaf students (Antia et

al., 2007, Braeges et al., 1993). Visual and auditory distractions may be particularly problematic for deaf students Dye et al. (2008) and Guardino and Antia (2012) demonstrated that relatively easily implemented strategies can have a positive effect on deaf student's engagement and lead to a reduction in disruptive behaviour. Evidence provided by this study supports this research with teaching assistants referring to the importance of the learning environment and how it is managed to ensure the students are able to access the lesson. They referred to seating positions, the different acoustic qualities of different rooms as well as the other students' behaviour and how it was managed. They also reflected on the success or otherwise of the teacher's direct communication with the deaf student. The teaching assistants were cognisant of the impact such adaptations, or lack of adaptations, had on the emotional well-being of the students. They described some deaf students as becoming frustrated and feeling separated from the main body of the class group and considered that such factors lead to reduced confidence and self-esteem as well as being a potential catalyst for disruptive or withdrawn behaviour.

10.5 Wider Societal Situation

The Wider Societal Situation relates to influences that impact on the classroom culture and organisation, and therefore on the student's learning within the classroom environment, that originate from elsewhere. The data exposed two key influences: expectations of attainment (10.5.1) and the home environment (10.5.2) illustrated in Figure 10.4

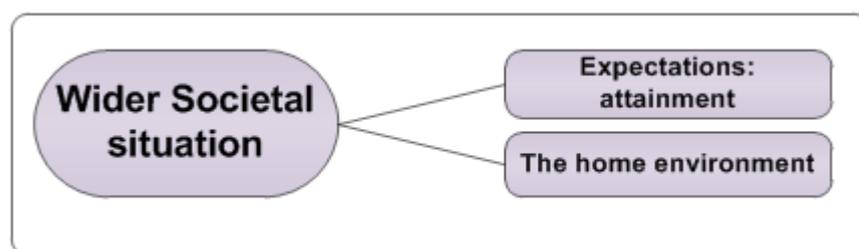


Figure 10-4 Challenges within the Wider Societal Situation of learning

10.5.1 Expectations of attainment

The perception that successful learning is measured by student attainment (2.4) seemed to result in deaf students frequently being referred to as "weak" students for whom moderate academic success was considered exceptional. Deaf students encompass a diverse range of individuals and as a cohort

approximately 40% will have additional difficulties (Fortnum and Davis, 1997) that may impact on their learning, consequently 60% will not. It is likely that the majority, if not all, of the 60% will be educated within their local mainstream schools, whilst those with the most significant additional difficulties will be attending specialist provision. These statistics would not suggest that the majority of students are “*weak*” learners if the term is used to describe students who do not have the capacity to achieve in line with their peers. Whilst there is no clear evidence to indicate the manner in which expectations for a student influence their ultimate academic attainment, teachers have been shown to adjust their delivery and lesson content in response to their early expectations of students (Blatchford et al., 1989).

Additionally Mello (2008), identified adolescents’ own expectations as an important influence on their school attainment and subsequent employment. Whilst it may not be possible to identify all the factors that contribute to an individual deaf student’s expectations of their own skills, capabilities and ultimate outcomes the influence of those around them will inevitably contribute to shaping who they believe they are as a person (Cooley, 1964), and therefore, their own expectations of what they may achieve. The potential impact of misconceptions regarding communication (10.2.2) and the students’ responses to communication within the classroom environment may result in the communicative partner, such as a teacher or teaching assistant, interpreting this as a learning difficulty consequently leading to the label of “weak learner”. This provides further evidence of the need to consider the impact of both parties within communication rather than focus on the attributes and skills of the deaf student as much research has done. Indeed expectations and perceptions of deafness (10.2.2) on a person’s ability to function effectively within society will also influence the expectations of other communicative partners.

10.5.2 The home environment

There was a clear connection made between students’ performance in school, both socially and academically with their home environment and family support. In addition to the importance of parental support for the use of hearing technologies reference was made by the teaching assistants to the nature of the parents’ relationship with school staff. They also discussed potential cultural influences particularly with regard to gender expectations.

Within the general field of education it is widely acknowledged that many different aspects of family background will impact on a student’s performance

and academic attainment in school. There has been a particular focus on support in the early years (Nutbrown, 2005, Hannon et al., 2006, Fricke et al., 2013), which has led to the implementation of schemes such as Sure Start in the UK designed to ameliorate some of the effects a problematic family background may have on a young student's school performance. This has been mirrored within the field of deaf education and there is a considerable amount of research that has investigated the impact of the family and parental input on the early development of the deaf child, particularly with regards to language development (Gallaway, 1998, Kyle et al., 1987, Kyle and Harris, 2006, Harris, 2010, Yoshinaga-Itano et al., 1998, Downs and Yoshinaga-Itano, 1999). However there is much more limited research into the relationship of academic attainment, family background and family support for a deaf student as they progress through school and particularly into secondary education. There has been consideration of the social impact of deafness on adolescents (Leigh et al., 2009, Wolters et al., 2012, van Gent et al., 2012, Rich et al., 2013) and their mental health (Fellinger et al., 2009) but little that considers how home and school might work collaboratively to support the deaf teenager to achieve academically. Within the UK many parents of deaf students find that they have a significant amount of contact with specialist support services, in particular the teacher of the deaf, during their child's preschool years. As their offspring transfers into fulltime education the specialist teacher of the deaf continues to work with the child but in the educational setting providing advice to educational staff. The amount of time the teacher of the deaf is able to offer parents reduces significantly and frequently disappears. This is clearly an area that requires further investigation, as the deaf child will continue to spend significantly more time in their home environment than their school environment even after moving into full time education.

10.6 Implications for the deaf students' learning in the mainstream classroom

The theoretical framework of the CLF(DL) facilitated the analysis and discussion of a range of internal processes and external influences, identified by teaching assistants that may influence a deaf student's learning in a mainstream secondary classroom. The framework revealed that within the Interaction dimension ensuring the deaf students were able to hear what was being said was a priority. Where a deaf student was considered to have below average literacy skills they were frequently supported as part of mainstream

initiatives rather than through specialised interventions. The importance of the deaf student's communicative partner and their knowledge, understanding and ability to communicate effectively with the deaf student, be they a teacher, peer or teaching assistant also became evident.

Consideration of the cognitive processes of learning and knowledge acquisition suggest the deaf students frequently find the pace and delivery of lessons challenging. This corresponds with research demonstrating that deaf students' memory may function differently from hearing students, see (4.3.2). Deaf students' working memory may have less capacity to deal with conceptual problems as they require greater capacity to process the language and retrieve previous knowledge. In conjunction with this deaf students were not always aware that their comprehension of a concept was incorrect. The deaf students were described as becoming frustrated within mainstream lessons when they were unable to engage fully with the teacher or their peers. These negative feelings were considered as having an adverse impact on their enjoyment and ability to engage in lessons.

Formal classroom learning is predominantly structured in a manner that promotes assimilative learning (Illeris, 2003, Jarvis, 2006) (3.4.1). Assimilative learning (Piaget, 1952) is the process by which new skills and information are relatively easily linked to prior learning by building up concepts and understanding through the development of mental schemas. It is typical of the learning that occurs within school based situations in which the structure of the learning is determined by the curriculum. The knowledge may be readily recalled within a similar context but not in others. It requires a mental balance to be present that allows the learner to be receptive to the acquisition process (Illeris, 2003). When the prior learning is in place and the student is receptive then learning becomes a relatively straight forward process. See (3.4.1). These key aspects of assimilative learning can be associated with internal process of learning: Content, Incentive, Internal Interaction as well as the External Interaction of learning as defined by the CLF(DL). See table 10-1.

	Assimilative Learning
Content/ Internal interaction	New information that builds on previous learning Easily recalled in a similar context May be more difficult to recall in other contexts
Incentive/ Internal Interaction	Requires a mental balance to learn effectively
External Interaction	Likely to occur in structured learning environments such as school through curriculum delivery by teachers

Table 10-1 Links between CLM(DL) and assimilative learning

Concepts and knowledge developed through an assimilated learning process are relatively easily recalled in a similar situation. Therefore a teacher may briefly recap the key points from a previous lesson before introducing the new learning objectives designed to build on this previous learning. Deaf students may experience different demands on their working memory from their hearing peers. They may not find the stimulus to recall information as effective as their hearing peers as a consequence of different memory storage structures (Marschark and Hauser, 2008). Teaching assistants describe deaf students as frequently having gaps in their knowledge suggesting that the concepts or mental schemas they have developed do not match those anticipated by the teacher. Consequently the deaf students may not have the prior knowledge necessary to effectively assimilate the new knowledge delivered in a lesson leading to incomplete assimilation of the new learning and potentially the incorrect development of concepts, which the deaf student may not appreciate are incorrect.

For effective assimilated learning to occur a student needs to be in an appropriate, receptive state of mind that allows them to focus on the learning and not be distracted by physical needs or emotional fluctuations. This relates to the Incentive dimension of learning and the Incentive sub group of Internal Interaction within the CLM(DL). However teaching assistants described deaf students as frequently becoming frustrated by poor communication within the classroom as a consequence of being unable to clearly hear the teacher or contributions from their peers. They also considered that the deaf students

were not always confident and motivated to engage within classroom activities. This lack of engagement may lead to poor behaviour suggesting that the student is no longer prepared to engage in the potential learning. In addition it is probable that the potential difficulties of recall and errors in prior learning may prove a source of frustration to deaf students particularly if they are given insufficient time to process the information. The teaching assistants also referred to increased fatigue for deaf students in comparison with their hearing peers which will not facilitate the mental and body balance required for effective assimilative learning. These factors imply that for some deaf students the learning within a mainstream setting may not always be the assimilative learning experience that the curriculum and pedagogical practices are developed to promote. It may indicate that the students are more frequently engaged in a more challenging form of learning than their hearing peers, that of accommodative learning.

Accommodative Learning (Piaget, 1952) refers to the process involved when a new concept is encountered that cannot easily be linked to previous learning. See (3.5). It requires the learner to accept they will need to rethink previously developed concepts in order to accommodate the new information. This requires the mental energy and motivation to address this misalignment of information before being able to move forward with learning. It requires emotional energy and commitment to achieve and presents a challenge. Once the learning has been successfully achieved it will be easily retrieved and may then be used to address a range of related but different situations (Illeris 2003). The key aspects of accommodative learning can also be associated with the Content, Incentive, Internal and External Interaction dimensions of learning see Table 10.2.

	Accommodative learning
Content/ Internal Interaction	New information that does not easily link to existing understanding. May need to deconstruct previous learning and reconstruct it to accommodate the new knowledge Learning may be retrieved and applied to different but germane situations
Incentive/ Internal Interaction	Requires effort and motivation to accept the limitations of previous learning and then to develop a reconstructed concept.
External Interaction	May require specific support in order to achieve effective successful learning

Table 10-2 Links between CLF (DL) and Accommodative Learning

The challenges deaf students encounter learning in a mainstream secondary classroom, as described by the teaching assistants, indicated that they may be engaged in far more accommodative learning than their hearing peers and this was not recognised by teachers. This clearly has implications for classroom practice.

During the course of the research cycles the teaching assistants discussed a strategy they felt was particularly helpful for deaf students to address some of the challenges presented by this situation, that of pre and post tutoring. Indeed it was a topic introduced by one teaching assistant for the second focus group agenda. If deaf students do find it challenging to recall prior information at the beginning of a mainstream lesson, which subsequently impacts on their ability to engage with and learn from the lesson, it may indicate that pre tutoring would indeed be a useful approach. It could be structured to provide the necessary amount of time and stimulus to ensure the student has recalled the necessary knowledge to be able to proceed with the lesson. Post tutoring would provide the opportunity to establish the concepts the deaf student had developed during the lesson so that the appropriate information can be used to inform future planning. With the current demands on mainstream teachers to ensure that students cover curriculum content necessary to achieve expected grades

within national qualifications teaching assistants reported that the opportunity to provide any 1-1 sessions including pre and post tutoring were not available. Some teaching assistants reported meeting with deaf students during break and lunchtimes to provide individual support. Empirical investigations into the potential benefits of pre and post tutoring for deaf students would help inform the debate regarding the provision of individual tuition within the timetable including who of the education team: teacher, teacher of the deaf or teaching assistant should conduct them and for what particular educational goal.

10.7 Reflections on the CLF(DL)

The CLF(DL) has provided a useful framework through which to examine both the current literature related to deaf students' learning within mainstream classrooms and the data generated within this investigation. It has facilitated a consistent approach that has supported the discussion and allowed findings to emerge. It is less clear, however, that the use of the framework as an analytical tool to code the data was as beneficial or provided any additional clarity to the data than could have been achieved through a systematic thematic analysis alone. There were challenges associated with coding, see (9.4) that led to complex and lengthy process without any clear impact. In subsequent investigations I would not code the data using the CLF(DL) I would only use a structured and systematic approach to thematic analysis of the data. I would however, consider using the CLF(DL) and developing it as a means to construct a dialogue around deaf students' learning experiences.

10.8 Summary

This chapter has considered the potential implications of the range of challenges teaching assistants identified as being part of deaf students' learning experiences in mainstream classrooms. Within the Interaction dimension, the main challenges identified were ensuring the deaf student was able to hear what was being said by the teacher and peers and the students having the confidence to contribute to discussions in the classroom. The students were described as becoming frustrated by being unable to follow conversations and lesson delivery. The challenges raised however indicate that the development of deaf students' pragmatic language skills within the classroom may provide useful skills to support their learning. Frustration was also expressed by the teaching assistants regarding mainstream teachers who frequently demonstrated difficulty in responding to the communication and

language needs of deaf students, this was validated by the students themselves. It may be valuable, therefore, to investigate educational professionals' perceptions of deaf students' communicative capabilities and this will be discussed further in the following chapter. The evidence also suggested that there may be a disparity between the focus of research within deaf education on language development and research on the development of language skills in the mainstream classroom.

Consideration of the cognitive processes of learning and knowledge acquisition suggest that deaf students often find the pace and delivery of lessons challenging. This can be explained by research demonstrating that deaf students' memory may be structured differently from that of hearing students and the demands on deaf students' working memory may be greater than on their hearing peers. The teaching assistants also indicated that deaf students were not always aware that their comprehension of a concept was incorrect. Research with university aged deaf students has identified this trait however the extent of the overestimation of comprehension amongst younger school aged deaf students has not been investigated. It would be valuable to investigate its prevalence and subsequent impact on learning within the classroom environment.

The deaf students were described as becoming frustrated within mainstream lessons when they were unable to engage fully with the teacher or their peers. These negative feelings had an adverse impact on their enjoyment and engagement in lessons. It was identified that a number of deaf students were unwilling to wear their hearing aids which subsequently had a negative impact on their ability to follow discussions within the classroom. Whilst there has been some research with adult hearing aid users and younger cochlear implant users understanding the current cultural and personal pressures on teenage hearing aid users may provide valuable insight into how to support them to use the technology more effectively. Support from parents was considered to be particularly important in ensuring deaf students used their technology and engaged with school positively. It was noted that whilst parents with a deaf child are able to engage extensively with specialist professionals during their child's preschool years that specialism is transferred to the education placement as the child enters fulltime education yet parents are described as key to their child's success at secondary age. This is clearly an area that requires further investigation.

Wider cultural expectations with respect to communication and academic attainment were discussed. The influence of these on teachers' and teaching assistants' interaction within the classroom were identified and suggest that investigation into how such expectations shape the interaction between the deaf student and teacher may inform our understanding of deaf students' learning experience. This will be explored further in the following chapter.

By adopting a holistic perspective, that brings into focus both the internal processes and external influences, new understandings are emerging. A tentative early indication is that as a consequence of the cognitive, emotional and interactional challenges deaf students experience they may be more frequently faced with accommodative learning than their hearing peers in an environment that is constructed to support assimilative learning. It is suggested that provision of pre and post tutoring may be a valuable approach to help alleviate some of the issues that lead to more challenging learning for deaf students. It is suggested that systematic investigations into the potential of pre and post tutoring should be undertaken.

The following final discussion chapter will consider the roles and responsibilities of the individuals within the social situation of the classroom and forms the final chapter in response to RQ3.

Chapter 11

Discussion 3: Roles and Responsibilities in the Classroom

11.1 Introduction

The three remaining findings in respect of RQ3 (9.3) relate to the Social Situation of the classroom and suggest an additional dynamic not identified by the CLF(DL), i.e. the impact of members of the Social Situation including the teaching assistant, teacher and other pupils on the deaf student's learning experience. These findings indicate a lack of clarity regarding roles and responsibilities of the professionals within the classroom for supporting the deaf student's learning. A new model will be proposed for the deployment of a teaching assistant when supporting deaf students' within mainstream settings (11.5). The model includes greater specialist input from a teacher of the deaf and increases the opportunity for direct interaction between the teacher and deaf student. This will be discussed with reference to recent research in the UK that has focussed on the generic role of the teaching assistant and its subsequent recommended changes to teaching assistants' working practices (11.5.1).

Finally consideration will be given to the further limitations of the CFL (DL) identifying two important dynamics first, the previous experience of the deaf student and secondly knowledge and understanding of deafness that other individuals bring to the social situation.

11.2 Teaching assistants' priorities in the classroom

The teaching assistants associated less successful knowledge acquisition with poor communication and consequently prioritised communication and knowledge acquisition when supporting deaf students . The practices they described as important parts of their daily routines were centred on ensuring communication and knowledge acquisition. It is evident that these issues dominated the teaching assistants' considerations of their own working environment and of the aims behind their support practices and expectations of their role. The focus of support for deaf students within the mainstream classroom clearly needs to be broadened to incorporate and reflect the growing understanding of the impact of deafness on learning. A significant amount of

research has examined the internal dimensions of learning particularly with respect to the Content dimension and the impact of deafness on cognitive processing (Marschark and Knoors, 2012) yet there is little evidence of this informing support practices. This study has revealed how many of the issues identified in the research are evident within mainstream classroom learning. (see chapter 10). For example the importance of social skills and social confidence for learning which has received attention more recently, (Antia et al., 2002, Antia et al., 2011, Antia, in press, Morgan, in press) is evident within this investigation. The importance of these factors on learning within the classroom is now becoming evident.

In light of the teaching assistants' focus on communication and knowledge acquisition, their reflections on mainstream teachers' knowledge and understanding of the issues deaf students face learning in a mainstream classroom are subjective and therefore need to be treated with caution. It may be that whilst some teachers appear to find it difficult to manage communication for a deaf student within a mainstream setting they may be more aware of the impact of deafness on the learning process than was identified by the teaching assistants. This is clearly an important aspect to investigate.

11.3 Mediated learning and mediated learning experiences

The thematic analysis of the data highlighted that mediated learning experiences (3.4.2) for the deaf student, (9.3.2), occurred frequently in mainstream classrooms with either the teaching assistant or a hearing peer acting as the mediator. This was presented as a remedial arrangement in which teaching assistants or peers provided their interpretation of the teacher's input and instructions for deaf students to fill in the gaps that had resulted from poor communication. There are however different consequences and potentials for the two groups of mediators identified: teaching assistants supporting the teaching process and therefore engaging in mediating the learning experience as distinct from peers as co-learners who will be engaging in mediated learning with the deaf student.

11.3.1 Mediated learning experiences involving the teaching assistant

Within the mainstream classroom the teaching assistants described a process of supporting the deaf pupil to engage and access the learning initiated by the

class teacher. This mediation of the deaf students' learning adds a further cultural and interpretive filter to the instructional process; that is the teaching assistants' interpretation of the teaching strategies employed and of the underlying aims through which the teacher has chosen to present new concepts and knowledge to the class. If the teaching assistant does not have the background subject knowledge; awareness of the planned lesson or of the intentions of the teaching strategies being employed they will need to make their own judgement as to their purpose and this may result in the original learning objectives being compromised or becoming no longer achievable. It may provide an explanation as to why teaching assistants are reported as being concerned primarily with task completion (Webster et al., 2010, Giangreco, 2010). If the teaching assistants consider task completion is the aim of the lesson then their support will be directed towards this and they will be more likely to use closed questions as well as to provide direct answers than teachers (Radford et al., 2011, Rubie-Davies et al., 2010) who are working towards different outcomes. It is worth noting that both of these studies were undertaken within mainstream classrooms with hearing students. It would be valuable to investigate whether teaching assistants who work closely with deaf students in mainstream settings make similar interpretations of lesson aims and objectives. Teaching assistants working with deaf students would ideally be more aware of potential communication challenges and have more strategies to promote understanding of the language used than their non-specialist colleagues because of the impact of deafness on language and communication.

Research also indicates that to mediate a lesson delivery effectively the mediator needs to have a good understanding of the content of the lesson and work closely with the teacher (Marschark et al., 2008, Marschark et al., 2005). See (4.4.4). The teaching assistants explored the benefits of being a subject specialist in their role however they reported frequently not having the opportunity to discuss lesson objectives with a mainstream teacher prior to a lesson. Further research should be undertaken into the impact of the teaching assistants' curriculum understanding on the deaf students' learning as well as into the effect on learning outcomes of lesson teachers anticipated. .

11.3.2 Mediated learning - co-learners

The teaching assistants described formal planned co-learning activities between deaf students and their peers as well as numerous informal situations. Group activities form a frequent learning scenario within secondary classrooms

suggesting that co-learning is considered an effective pedagogical approach. However, such situations were described as especially difficult for deaf students by the teaching assistants which supports the findings of previous studies, (Wheeler et al., 2004, Tzuriel and Shamir, 2007). When group activities were selected as part of the learning activities teaching assistants reported that no particular consideration was given to how the deaf student might function within the forum. Teaching assistants described the challenges of managing such an activity. They considered it was crucial to support the student's communication and in doing so introduced a mediated learning experience rather than the planned peer mediated learning activity.

Teaching assistants, teachers and pupils all referred to informal or unplanned support from peers that occurred when the deaf student referred to a peer for clarification, rather than to the teacher or teaching assistant. It was suggested that this was a remedial tool and not reflected on positively. Peer assisted learning has, however, been demonstrated to provide higher levels of cognitive benefit for more able learners. When guided in how to support learning for the cognitively less able partner, the more able student is demonstrated to gain most benefits, (Tzuriel and Shamir, 2007). Success in a joint learning activity can also provide important skills in teaching students how to work cooperatively (White, 2011). This would be a valuable area to explore.

11.4 Mainstream Teachers

The teaching assistants were very clear that they considered mainstream teachers' knowledge and understanding of deafness were insufficient. They described mainstream teachers as appearing to believe that if a deaf student was able to access the lesson content directly, or via the teaching assistant, then the deaf student was being included and the perceived barriers to learning were removed. There were suggestions that for some mainstream teachers the presence of the teaching assistant meant that they could concentrate on other members of the class and leave the teaching assistant to work with the deaf student. The teaching assistants also expressed the view that because the teachers often did not deal directly with the deaf students, as a direct result of their own presence, the teachers did not fully appreciate the challenges and issues the deaf students encountered within the mainstream secondary environment, reinforcing this perception. This does not present a positive and proactive approach to the inclusion of the deaf student within the class. See (4.8.1). It is important to acknowledge that this presents just one perspective of

the responsibilities and roles within the secondary environments described within this study albeit one that was also referred to by some of the deaf students. It would appear to be an important aspect of the classroom dynamics to explore further particularly as the deaf students expressed dissatisfaction with class teachers who appeared not to understand their needs. This supports the findings of Braeges et al. (1993) who reported that teachers' lack of understanding of deaf students' communication and language skills may lead to some deaf students becoming frustrated and result in disruptive or withdrawn behaviour. This would suggest that some deaf students' behavioural issues may, at least in part, be a consequence of inadequate recognition of their communication and learning needs within the mainstream secondary environment.

The teaching assistants made very little reference to the involvement of teachers of the deaf when discussing their experiences supporting deaf students. The teaching assistants indicated that it was extremely valuable when they were able to access such specialist advice but that there was very little opportunity to do so. It was also clear that there was more involvement by the teacher of the deaf within some settings than there was in others. This was corroborated by the teachers of the deaf who felt they had insufficient time with mainstream teachers. There did not appear to be any clear or consistent expectations from the schools' senior management teams for the involvement of these specialist teachers or their role within the provision for deaf students.

11.5 The roles and responsibilities of practitioners within mainstream secondary classrooms

The teaching assistants presented a clear picture of how they perceived their role in the classroom as that of a key support for the deaf student. This was based on their understanding of learning in the classroom and their expectations for their role. Those who reflected on their own impact in the classroom recognised that their presence frequently presented a barrier between the deaf student and the teacher (Giangreco and Doyle, 2007, Giangreco, 2007, Blatchford et al., 2009c). By limiting the opportunities for the teacher to engage directly with the deaf student the teaching assistants' presence frequently resulted in the teachers being less familiar with the deaf students and their particular learning requirements than they should be. This led to misunderstandings regarding the deaf student's academic potential and how their learning is best facilitated. The teaching assistants also considered

that this situation, or barrier, reinforced many deaf students' low self-esteem and lack of confidence to contribute to the class activities further reducing the opportunities for the teacher to engage directly with them. The teaching assistants also recognised that their presence affected the deaf students' engagement with their peers (Giangreco and Broer, 2007) again providing a barrier to the developing social and learning relationships. In addition the teaching assistants described their own limited opportunities to engage with the mainstream teacher to discuss lesson plans and support strategies. These were frequently undertaken during break and lunchtimes and no time was allocated within the timetable for this to occur. One school, however, was in the process of establishing such an opportunity.

Contact with the teacher of the deaf was also described as limited, although it was clear that some of the settings received more frequent visits than others. (See 9.6.1.6.3). This was validated by the teachers of the deaf who reported that the ethos of the school and attitudes of the senior leadership teams within the schools influenced the decisions made by the specialist support service as to the level of input it was beneficial to provide. The teaching assistants spoke very positively regarding the support and insights a teacher of the deaf was able to provide and they considered that increased involvement by a teacher of the deaf would be beneficial to both the mainstream teacher and the deaf student. Both the teaching assistants and the teachers of the deaf were frustrated by the lack of opportunities for the mainstream teachers to have direct contact with the teacher of the deaf. The reason for the limited contact was not explored and would warrant further investigation. It is speculated however that general lack of awareness by mainstream teachers and senior leadership teams of the challenges deaf students face in mainstream classrooms, exacerbated by the presence of teaching assistants, contributes significantly to this lack of contact. It is important to stress that this is not the fault of the teaching assistants but rather a consequence of how their role has developed. It is proposed therefore that an audit should be undertaken of the specialist knowledge present within the classroom that informs support practices for deaf students. From this, consideration should be given to the role of specialist teachers of the deaf and the contribution they should be expected to make within the classroom by all the professionals involved.

The picture that emerged from the findings of this study of the different relationships and interactions between the different members of the classroom community are representative of my own experience as a teacher of the deaf. I

frequently encountered situations, particularly in secondary settings, where the mainstream subject teacher was not aware of the needs of the deaf student who was dependent on the teaching assistant for support. When teachers were engaged with the pupil they frequently described themselves as being reliant on the teaching assistant for advice as the opportunities to meet with the specialist teacher of the deaf were extremely limited. My own experience as the parent of a profoundly deaf student attending a mainstream secondary school mirrored this situation. As the school received just one hour visit every two weeks from a teacher of the deaf to provide specialist input to the school staff the teacher of the deaf's capacity to meet with mainstream teachers was extremely limited. As a consequence the ToD met with the teaching assistant who provided the majority of my daughter's support and occasionally the Special Educational Needs Coordinator (SENCO) of the School. The teaching assistant was then expected to cascade any information to her mainstream teachers. This became more useful during sixth form when my daughter was engaging with just six teachers on a weekly basis, prior to that it had proved ineffective. As a parent my dominant contact with the school regarding my daughter's education provision was with the teaching assistant.

The relationships between the deaf student, mainstream teacher and teacher of the deaf, as presented by the teaching assistants, are illustrated in figure 12.1. The deaf student spends most time engaging with the teaching assistant. The student's contact with the teacher and the teacher of the deaf are limited and not certain. The teacher's contact with the teaching assistant, to liaise regarding the deaf student, is limited and not certain. The teaching assistant's contact with the teacher of the deaf is limited and frequently the teacher of the deaf does not meet with the mainstream teacher. The dominant relationship between the practitioners and the deaf student therefore is between the student and the teaching assistant.

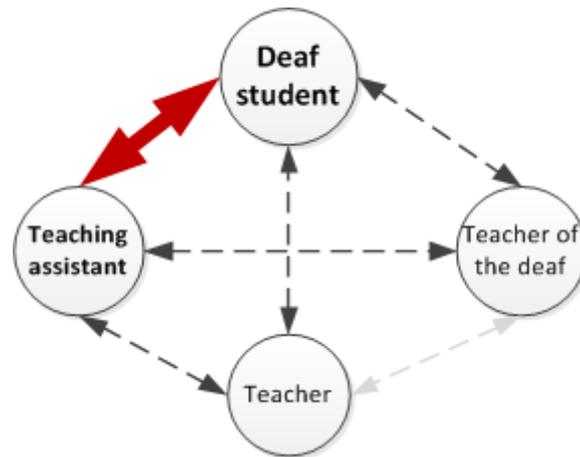


Figure 11-1 Illustration of current relationships within mainstream classrooms

The reason why the support structure above may have developed has not been examined but it is likely that there are two significant contributing factors: the philosophical approach embedded within government policy documents (Department for Education Employment, 1997, Department for Education and Science, 2001, Department for Education and Department for Health, 2014), and resulting guidance, and the focus of research in the field of deaf education i.e. the deaf student. Both of these may, unintentionally, support the notion of a deficit model of disability, that is, the deaf student has barriers to overcome in order to be able to access mainstream education.

The notion of barriers and access for an individual to learning within a mainstream setting is embedded within the current SEND code of Practice (Department for Education and Department for Health, 2014) and shapes policy within the school establishment. It has inevitably influenced the manner in which support practices have developed. This is evident in the teaching assistants' description of the purpose of their role to ensure the deaf student can hear what is being said and to fill in the gaps ensuring the student has full access to the curriculum. This was corroborated by the mainstream teachers and the deaf students, based on the assumption that if the deaf student could hear what has been said then they should be able to learn in the same way as their hearing peers.

The majority of the research into the impact of deafness on learning has focussed on the attributes and skills of the deaf student; although some recent research is beginning to consider the impact of social skills for learning. When external factors have been addressed the research has primarily focussed on the impact of the mode of communication the deaf student is exposed to, that is

whether they are able to access spoken language or sign language, and how these different communication modes impact on their cognitive processes. Such research is vitally important in developing our understanding of deaf students' learning but may reinforce the notion of a deficit model for education. It may equally be argued that understanding deaf students' cognitive processes will enable us to better understand how the environment and pedagogical practices support or disrupt learning for the individual and so allow changes to be made. Either way without the specialist knowledge reaching the mainstream classroom it will not change practice.

Approaching learning from a holistic perspective, for example by using the CLF (DL), exposes the external factors and the internal processes in shaping a deaf student's learning experience within the mainstream settings as described by the teaching assistants. This study suggests that the inclusion of a deaf student within the mainstream environment affects other members of the learning community and their responses subsequently impact on the deaf student. This is a relatively unexplored area of deaf education.

The support mechanism present in the schools represented within this study may also be creating further barriers for teachers, first by reducing the occasions for them to engage directly with the deaf student leading to a limited understanding of the deaf student's learning challenges and needs. This in turn limits the opportunities to develop their understanding of why and how a specialist teacher may be beneficial for the deaf student and support the development of their own practice. Secondly it creates the situation in which teaching assistants provide mediated learning experiences resulting in the deaf student frequently being taught by the least qualified practitioner (Giangreco and Broer, 2005 , Blatchford et al., 2011).

In order to address this there needs to be a paradigmatic shift in the purpose of the teaching assistant role from one of support to one of facilitator. That is rather than being present to remove the barriers to learning and filling in the gaps to enable the student to learn in the same manner as their hearing peers, the teaching assistant should, as a consequence of a recognition of the differences a deaf learner brings with them to the classroom, provide the means by which effective differentiation can be established. For this to occur it is essential that the teacher is able to develop effective working relationships with the deaf student and the teacher of the deaf. The mainstream teacher, a subject specialist in a secondary setting, will have specialist knowledge regarding the subject matter, concept development within the subject area and

effective pedagogical practices in delivering the curriculum. The teacher of the deaf may or may not be a subject specialist but will have the specialist knowledge and understanding of the impact of deafness on learning and would therefore be able to work collaboratively with the subject teacher to differentiate pedagogical practices to enable the deaf student to access the subject concepts with their hearing peers. The teaching assistant may support this by working with the subject teacher, teacher of the deaf, deaf student or their peers and provide the time and opportunity for the balance in the working relationships to change. Figure 12.3 illustrates the suggested manner in which the balance of the relationship would need to change for this to be successful. The main relationship would be between the mainstream teacher and the deaf student but it would also require effective working relationships between the teacher of the deaf and the student and the teacher of the deaf and the teacher.

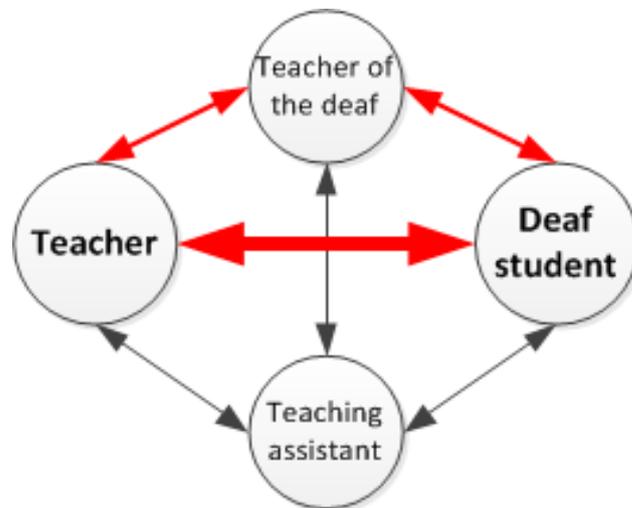


Figure 11-2 Illustration of proposed relationships for effective support

11.5.1 Making the Best Use of Teaching Assistants

The approach to the role of the teaching assistant in the classroom presented above would build on current research “Making the Best Use of Teaching Assistants” Guidance Report (MBUTA) (Sharples et al., 2015). This report was published after I had developed my research design however it provides a useful structure in which to frame a discussion about moving forwards from my research and aligns it with current research in the field. This report builds on the work of the Deployment and Impact of Support Staff 2003-2008 (DISS) project (Blatchford et al., 2011), and “Teaching and Learning Toolkit” (Higgins et al., 2013). The (DISS) Project 2003-2008 involved the analysis of the outcomes of 8,200 students’ academic progress on English, Mathematics and

Science and the amount of teaching assistant support they received as determined by teacher estimates. The statistical analysis controlled for other factors recognised as affecting outcomes including SEN status. Within the UK SEN status is determined by assessment of a student's needs within a learning situation rather than by the nature of their disability, therefore no distinction was made between the different types of SEND present in the cohort. The MBUTA Guidance Report (Sharples et al., 2015) is about to be at the centre of a project to change the deployment of teaching assistants within primary and secondary schools supported by the Education Endowment Foundation.

The above report contains four recommendations regarding the use of teaching assistants in everyday classroom contexts that this study supports:

TAs should not be used as an informal teaching resource for low-attaining pupils (p.17)

Use TAs to add value to what teachers do, not replace them (p.18)

Use TAs to help pupils develop independent learning skills and manage their own learning (p.18)

Ensure TAs are fully prepared for their role in the classroom (p.20)
(Sharples et al., 2015)

The crucial difference between the MBUTA Guidance and this study is the cohort of pupils investigated. The MBUTA Guidance is developed from research on a cohort that potentially includes deaf students, but also encompasses all other students identified with SEND along with their class peers. This study focusses on deaf students exclusively which enables their specific learning experience to be considered. It is reasonable to assume that the different nature of SEND that are present in schools will require very different approaches to ensure successful outcomes for different students. The recommendations in the MBUTA Guidance are, however, broad and suggest a fundamental change in the approach to the employment of teaching assistants in schools. This study supports that a fundamental change is required although as it is based within a particular cohort of students with SEN and the MBUTA has been developed from an investigation of the generic role of the teaching assistant there are differences in how that change is envisaged.

The first two recommendations "*TAs should not be used as an informal teaching resource for low-attaining pupils*" (p.17) and "*Use TAs to add value to what teachers do, not replace them*" (p. 18) are supported by the evidence and recommendations in this study, (see figure 11-2.). It is suggested that the current dominant relationship between the teaching assistant and the deaf

student exacerbates poor recognition of the deaf student's learning experience in the mainstream classroom. It should therefore be redefined to support an effective relationship between the mainstream teacher and the deaf student that includes input from a specialist teacher of the deaf.

The third recommendation "*Use TAs to help pupils develop independent learning skills and manage their own learning*" (p.18) is less clearly addressed by this study however by adjusting the teaching assistant focus from one of student support to one of teacher facilitator it removes the opportunity for the deaf student to become dependent on the teaching assistant. If the teaching assistant enables the teacher to become more familiar with the deaf student and provides them with opportunity to work with the specialist teacher of the deaf then the deaf student will have the opportunity to develop a working relationship with the mainstream teacher on par with their hearing peers.

Inherent in the fourth recommendation: "*Ensure TAs are fully prepared for their role in the classroom*" (p.19) is a requirement for a clear understanding and description of what that role is (Kerry, 2005, Giangreco et al., 2011). There is no clear description in the MBUTA Guidance as to what the role of the teaching assistant in the classroom should involve. It does, however, recommend that teaching assistants should only be engaged in delivering structured evidence based interventions away from the classroom. It may be that different types of SEND within the classroom will require different roles for the teaching assistant. It would seem reasonable that where a specialist teacher is involved with the pupil that their expertise should be used to shape overall pedagogical practices rather than just offer advice to individual members of the team. Further understanding of the impact of deafness on the learning experiences of deaf students in mainstream schools would support a clearer understanding of how the teaching assistant role should be developed to support an effective relationship between the deaf student and the mainstream teacher. For example research to identify the key language skills deaf students require to function effectively within the secondary school system and to identify which skills present particular challenges. Such research could then be used to facilitate development of intervention and support strategies, validated within the classroom environment, which could be implemented as part of, or alongside, the general curriculum delivery. The essential part of such research however, is that it needs to be based in the environment where the particular academic learning is occurring.

11.6 Future development of the CLF (DL)

The CLF (DL) provided a framework through which to consider the deaf student as a learner in the classroom in terms of the internal processes of the Content, Incentive and Interaction dimensions of learning. It did not, however, provide the opportunity to expose the nature or extent of the life experiences that have led to the deaf students' knowledge and understanding of their world, in the terminology suggested by Jarvis (2006) informed their *life world* (3.2). It was apparent that the students' previous knowledge acquisition and understanding was an important contributor to the nature of the type of learning they engaged in (11.6) but the nature of such influences were not exposed by the framework. Pedagogical practices within secondary settings are predominantly structured to engage students in assimilative learning but the evidence gathered in this investigation suggests that deaf students may be engaged in more challenging accommodative learning as a consequence of gaps in their previous learning combined with communication difficulties. Such an understanding would therefore seem essential in considering the deaf students' learning experience within the classroom environment. A similar limitation was recognised by Bronfenbrenner as he developed his ecological model with the chronological dimension being added after the original model was conceived (3.3.1).

Secondly the CLF (DL) did not provide the opportunity to reflect in any detail on the external influences on learning other than to draw a distinction between those that were a consequence of the immediate Social Situation of the classroom and those that originated from outside the classroom, the Societal Situation. Bronfenbrenner's Ecological Model facilitates a much more detailed consideration of these external influences and how they interact to influence the development of a child. Neither model, however, provides the opportunity to identify the external influences that manifest themselves within members of the classroom community other than the deaf student such as the teacher, teaching assistant and other students. The CLF(DL) has revealed this potentially important dynamic that needs further investigation. Other members of the Social Situation, particularly teachers and teaching assistants, may not have an accurate understanding of the communicative and language challenges the deaf student experiences which will significantly impact on the success of any interactions. As the purpose of the classroom situation is to encourage structured learning guided by the teacher, successful interaction is clearly vital. Success in ensuring effective interaction requires an understanding of the impact of the student's deafness not only on the student

but also the other individual. This will involve consideration of the knowledge, understanding and experience of deafness that the other individual has. The CLF(DL) does not facilitate this in depth reflection on other individuals involved in the interaction and what they bring to the social situation of the classroom. This focus on the individual as the learner and the internal process is reflected within the deaf education literature (4.3.5).

11.7 Summary

This chapter has explored the Social Situation of the mainstream secondary classroom in which a deaf student receives support from a teaching assistant. It considers the impact of the teaching assistants' priority in the classroom: communication and knowledge acquisition and after analysing the data using CLF(DL) identifies that other factors associated with the impact of deafness on learning may be influencing deaf students' learning experiences. A number of these factors are identified within the research literature however no evidence was found to indicate they were recognised or addressed within support practices in the mainstream classroom.

The data indicated that the deaf students frequently received delivery of lesson content through either the teaching assistant or a peer rather than directly from the teacher, described as a mediated learning experience. A mediated learning experience inevitably adds another layer of interpretation to the delivery particularly with regards to the learning objectives potentially resulting in different objectives being achieved. Mediated learning with a peer as a co-learner however may be beneficial to both parties if carefully planned and be particularly supportive to the deaf students' social skill development.

The role of the mainstream teacher was discussed whilst recognising the data was presented by the teaching assistants whose focus was communication and knowledge acquisition. The teaching assistants considered that their presence led to the mainstream teachers being less likely to develop an effective relationship with the deaf student than they might with a hearing student in the same class. This resulted in the teacher not being fully aware of the deaf student's learning needs and influenced their perceptions of the cause of any lack of engagement the student may demonstrate. This would appear to be an important area for investigation.

A model of current support practices was suggested that emphasised the different relationships between the teacher, teaching assistant, student and

teacher of the deaf. In light of the apparent lack of specialist knowledge within the classroom a new model was proposed that aimed to enable a strong and effective relationship between the deaf student and the mainstream teacher that includes the involvement of the teacher of the deaf; the teaching assistant being directed towards providing the time and opportunity for these interactions to occur. This was discussed in respect of the recent publication "Making the Best use of Teaching Assistant Guidance" that is currently being introduced directly to staff in mainstream schools.

Finally consideration was given to the CLF(DL) as a framework to examine the deaf students' learning experiences in the mainstream secondary classroom. The framework has facilitated consideration of the internal processes of and external influences on the learning experience however two key limitations were discussed. First the framework did not provide an opportunity to reveal the influence of the deaf students' past experiences on their involvement in the structured learning of the classroom. Secondly the Framework did not provide the means to consider the past experiences of other members of the classroom situation or their knowledge and understanding of deafness on their interactions with the deaf student. The framework did however indicate that this is an area that needs further investigation.

Chapter 12

Conclusion

12.1 Introduction

The aim of this investigation was to develop a new understanding of deaf students' learning experiences in a mainstream secondary classroom from the teaching assistants' perspectives in order to improve provision and subsequently outcomes for this cohort. It would also have implications for training educational professionals to support deaf student' learning within such settings. It was anticipated that this new understanding might inform the development of teaching assistant support for deaf students in mainstream secondary classrooms and highlight areas for further research. This final chapter will begin by providing a brief synopsis of the rationale for and nature of the investigation (12.2) and will be followed by a summary of the key findings with respect to the overall aim of the study. Consideration will then be given to the limitations of the investigation (12.3) before discussing the contribution the study makes to the extant literature (12.4). The chapter will conclude with my consideration of my place within this research and how it has developed my thinking. (12.5)

12.2 Summary of the study

Deafness is a low incidence disability yet there is a sizable number of deaf students being educated within mainstream schools. Despite the developments in technology and the acceptance of different approaches to the education of deaf children, that include the use of sign languages, these students are still not achieving academic standards in line with their hearing peers. In order to improve outcomes for this cohort we need to better understand how deafness impacts on them within this environment.

A new theoretical perspective from which to investigate deaf students' learning within mainstream secondary classrooms was proposed. This perspective has a holistic philosophical base (Jarvis 2006), and utilised Illeris' Complex Learning Model (CLM) (2007) as a framework from which to

review the research literature investigating the impact of deafness on learning. The CLM introduced the notion of learning as consisting of three dimensions: Content, Incentive and Interaction, all of which are present when learning occurs. It also acknowledged the immediate Social Situation and the Wider Societal Situation in which the learning takes place. Illeris' CLM was modified to emphasise the importance of the Interaction dimension to reflect the potential challenges deafness brings to communication. The resulting model adapted for deaf learners, CLF(DL), was then used as a framework through which to consider the literature in terms of the internal processes of, and external influences on learning within the mainstream classroom.

Recent investigations into teaching assistant practice indicated that the support they provide students with statements of SEN may be detrimental to the academic attainment of the students supported. Very little research has investigated teaching assistant practice from their own perspective despite the prominence of their role in many classrooms. Currently a substantial number of deaf students are supported by teaching assistants in mainstream settings and consequently I decided to place teaching assistants at the centre of the investigation. They possess a body of knowledge regarding the learning experiences of deaf students that could potentially inform deaf educational practices as well as the wider debate regarding teaching assistant support. It was expected that by identifying the challenges deaf students encounter, from the teaching assistants' perspectives, it would provide valuable information. This led to the formation of the research question:

RQ3 What challenges do deaf students experience within mainstream secondary classrooms from the teaching assistants' perspectives?

As teaching assistants are not required to receive any training nor to have acquired any specific qualifications in respect of the role it was important to consider the manner in which they talked about deaf students learning and learning experiences. This prompted the research question:

RQ2 What language and terminology do teaching assistants use to talk about learning?

The data resulting from this question, it was anticipated, would provide an understanding of the working context from which the teaching assistants described the challenges deaf students experience in the classroom.

In the absence of any previous studies that explored teaching assistants' perceptions of classroom learning experiences, the third key research question addressed the development of a methodology that would facilitate the generation of data that accurately and trustfully represents the teaching assistants' perspectives:

RQ1 How can the teaching assistants' perspectives be realised?

The resulting methodology involved a three stage, iterative, research cycle involving two groups of teaching assistants all of whom supported deaf students within mainstream secondary school settings. Six teaching assistants formed the Data Group and were engaged in three focus group discussions and twelve individual interviews, the transcripts of which provided the core data. The remaining four teaching assistants formed the Consultancy Group and strengthened the trustworthiness of the data through a review process at each cycle of the research. The core data was also triangulated using data collected during individual interviews with the mainstream teachers, deaf students and teachers of the deaf who worked with Data Group teaching assistants.

12.3 The aim of the study

The aim of this investigation was to develop a new understanding of deaf students' learning experiences in a mainstream secondary classroom from the teaching assistants' perspectives. The findings were presented in three sections:

- Teaching assistants talking about learning, this provided a context from which to consider their description of the challenges encountered by deaf students.
- The nature and range of challenges identified, this resulted in the suggestion that deaf students may be more frequently faced with accommodative learning than their hearing peers in an environment that is constructed to support assimilative learning.
- The responses of other members of the classroom community: teachers, teaching assistants and peers to the deaf student and consideration of their roles and responsibilities.

The teaching assistants described what they did to assist deaf students to hear and follow a lesson delivery. They rarely reflected on how their actions

supported the deaf pupils' learning or learning experience. Teaching assistants use a wide range of language and terminology associated with educational practices in a manner that suggested that their understanding of the concepts the terminology refers to are seated within the Content dimension of learning. As teaching assistants are not required to have any formal qualifications or previous training it was suggested that they will have acquired their knowledge and understanding from their personal experiences and by engaging in discussions with colleagues and educational professionals. There appeared to be little change in participants' perceptions of deaf students' learning throughout the research process.

The teaching assistants did, however refer to a range of challenges that deaf students encountered within the mainstream environment and appeared to impact on their learning experiences. The analytical process revealed challenges related to the internal processes of and external influences on deaf students' learning experience in the mainstream classroom. A tentative early indication was that as a consequence of the cognitive, emotional and interactional challenges deaf students experience they may be more frequently faced with accommodative learning in an environment that is constructed to support assimilative learning.

The influence of cultural expectations with respect to communication and academic attainment were identified as impacting on the interactions of teachers, teaching assistants and peers with the deaf students. These expectations clearly shaped the interactions and contributed significantly to the deaf students' learning experiences. In particular deaf students frequently received delivery of lesson content through either the teaching assistant or a peer rather than directly from the teacher resulting in a mediated learning experience. Additionally the teaching assistants considered that their presence led to the mainstream teachers being less likely to develop an effective relationship with the deaf student as they might with a hearing student in the same class. This resulted in the teacher not being fully aware of the deaf student's learning needs and influencing their perceptions of the cause of any lack of engagement the student may demonstrate.

12.4 Limitations of the study

This study involved a small group of participants from one local area all employed within the same local authority. None of the participants had worked supporting deaf students within a different area which provided a relatively limited contextual experience from which to draw conclusions. However the teaching assistants had more than 27 years' experience of supporting deaf students in mainstream secondary schools between them. The Consultancy Group represented three additional local authorities and provided a minimum of 12 years' further experience. From this base the findings emanated from a limited but experienced cohort of participants.

Issues with regards to recruitment were addressed in detail (6.5.1). As a consequence of being identified by a senior member of staff as being good practitioners the participants were unlikely to form a representative group of practitioners who support deaf students. They were, however, all willing to contribute and between them they generated a large data base.

As there was very little prior research available that generated data from the teaching assistants' perspective, rather than in response to researchers' questions, it was necessary to make some assumptions regarding the potential outcomes during the research design process. A detailed evaluation of the methodology (6.5.4) indicated that some of those assumptions were mistaken particularly the assumption that the teaching assistants would talk about learning. This became evident during the research cycles and adaptations were made to help focus the discussion. It is difficult to ascertain, without future duplications of the methodology, how this assumption might have influenced the data that was generated. Had the agenda been more focussed on learning, the teaching assistants' views may have been presented differently. Alternatively it may have resulted in the participants trying to anticipate what they considered they were expected to know. The iterative research cycles allowed this issue to be addressed by gradually changing the focus of the agendas towards the topic of learning whilst the participants developed enough confidence in the process to present their own views. The Consultancy Group and Reference Group data did not contradict the contributions of the Data group participants suggesting that the data was trustworthy.

Finally consideration was given to the CLF(DL) as a framework to examine the deaf students' learning experiences in the mainstream secondary

classroom. The framework has facilitated consideration of the internal processes of and external influences on, the learning experience however two key limitations were discussed. First, the model did not provide an opportunity to reveal the influence of the deaf students' past experiences on their involvement in the structured learning of the classroom. This forms a fundamental process within Jarvis's (2006) holistic view of learning. The participants indicated that incorrect or missed learning presents challenges to the deaf students in this environment and will need to be addressed in further development of this framework. Secondly, the CLF(DL) did not provide the means to consider the past experiences, knowledge and understanding of deafness acquired by other members of the classroom community or how these factors shaped their interactions with the deaf student. This was also identified by the teaching assistants as being an important contributor to the deaf students' learning experience.

12.5 Contribution to the current literature

The need to investigate deaf students' learning experiences in mainstream secondary classrooms was identified in Chapter 2. Deaf students, despite recent technological developments and a growing understanding of the impact of deafness on learning, continue to underperform academically in comparison with their hearing peers. Deaf students are predominantly educated in mainstream settings and if their opportunities to learn are to be improved we need to better understand the nature of their learning experience in this setting.

Deaf education research has been dominated by interest in the impact of deafness on language development and investigations into learning based within the psychological field. Much of the research has concentrated on the deaf student. The main exception has been scrutiny of the deaf child's early years and in particular the nature of their relationship and interaction with their parents and how such relationships affect their development. More recent research has considered the importance of social skills for the deaf students learning in the mainstream classroom but very little has reflected on the holistic learning experience. This study has begun the process of considering how this may be done and to indicate the value it may have. I have proposed a way this can be achieved. By adopting a holistic perspective for the research, whether based on the framework used in this

investigation, or on different methodology, it will hopefully bring a new understanding to the literature.

In order to achieve this I have looked to perspectives of learning that have been developed within the field of adult education, in particular the philosophical approach of Jarvis (2006) and Illeris' Complex Learning Model. Whilst the model clearly needs further development it has provided a broader perspective on deaf students' learning than has previously been considered. In doing so it has identified two key areas that could usefully be investigated further. The first relates to the nature of the learning deaf students experience in mainstream classrooms. It suggests that deaf students may be more frequently faced with accommodative learning than their hearing peers in an environment that is constructed to support assimilative learning. Secondly, it indicates that further consideration should be given to the other members of the classroom community, especially the mainstream teacher who is responsible for developing pedagogical practices and directing the social interactions designed to support learning. We need to understand how their experiences, knowledge and understanding of deafness shape their interactions with the deaf student.

Finally by engaging teaching assistants at the centre of the investigation the data has also provided fresh insight into teaching assistant practice in two ways. First, recent research has questioned the effectiveness of the teaching assistant role citing a lack of qualifications as being instrumental in this regard and suggesting that teaching assistants' conversations with pupils tends to close down rather than open up opportunities for pupils to develop their understanding of concepts. This research suggests that teaching assistants' understanding of learning within the school environment may also be a contributory factor. The evidence indicates that the teaching assistants perceive learning as a process of knowledge acquisition that will support exam success. This perception would appear to be, at least in part, a consequence of developing their understanding of learning within a school environment and from their own past educational experience. Secondly the investigation has facilitated the development of a model of current support practices that emphasises the different relationships between the teacher, teaching assistant, student and very limited input from a specialist teacher of the deaf. In light of the apparent lack of specialist knowledge within the classroom a new model was proposed that aimed to enable a strong and effective relationship between the deaf student and the mainstream teacher

to develop. It includes the involvement of the teacher of the deaf with the teaching assistant being directed towards providing the time and opportunity for interactions to occur between the teacher and pupil; teacher and teacher of the deaf and between the pupil and teacher of the deaf. This was discussed in respect of the recent publication “Making the best use of Teaching Assistant Guidance”, (Sharples et al., 2015), which is currently being introduced directly to staff in mainstream schools through an Education Endowment Foundation supported initiative (Education Endowment Foundation, 2015). Whilst the proposed model of deployment of the teaching assistant builds on the recommendations in the MBUTA guidance it highlights the lack of a clear job description for the teaching assistant. This investigation suggests that deaf students have very particular needs within the classroom that will require the development of a specific role in order to support their learning experience effectively.

12.6 Final reflections

My background as a practitioner has, undoubtedly, shaped the nature of this research study. My original intentions involved developing a “How to do it” guide book for teaching assistants to support deaf students that would include practical suggestions. I just wanted to create some evidence to help develop and support those pragmatic suggestions. However within a very short time after stepping out of the classroom and into the library I began to find the time and space to think. I began to reflect on the issues I was keen to address in a way that was not available to me before. This was ably abetted by my supervisors and during the process I was prompted to reconsider what it was that I needed to do and contemplate more carefully the questions that I needed to ask. This evolution of my thinking and questioning is embedded within this thesis as is my practitioner experience. It is a thesis born of a practical desire to make a difference. Whilst I developed my criticality and research skills I have endeavoured to retain my focus on the fundamental purpose of improving the provision and potentially the outcomes for deaf students and how to continue to do so.

I have also discovered that asking questions leads to answers and ideas as well as more questions. It is an ongoing process that is unrestrained. It means the process is extremely challenging but endlessly enticing. There is never a perfect point to stop and I recognise that there will be questions about the choices I have made and how they influence the outcome. That is

expected. My thesis however provides a platform from which to develop a better understanding of the challenges facing deaf students' learning in mainstream secondary classrooms and from that platform pragmatic solutions can emerge.

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List of Abbreviations

ASL	American sign Language
BSL	British Sign Language
BATOD	British Association of Teachers of the Deaf
C	Content dimension of learning
C1, C2 and C3	Consultancy Group Meeting 1,2 and 3
CLF	Complex Learning Model
CLF(DL)	Complex Learning Model Adapted for Deaf Learners
CRIDE	Consortium for the Research in Deaf Education
EI	External Interaction dimension of Learning
F1, F2 and F3	Focus Group discussion 1, 2 and 3
GCSE	General Certificate in Secondary Education
HI	Hearing Impaired
HLTA	Higher Level Teaching Assistant
I	Incentive dimension of learning
II	Internal Interaction dimension of learning
In.A and In.B	Individual Interview A, Individual Interview B
NDCS	National Deaf Children's Society
RQ	Research question
SS	Social Situation of learning
S	Student
SEN	Special Educational Needs
T	Teacher
TA	Teaching Assistant
ToD	Teacher of the Deaf
UK	United Kingdom
WS	Wider Societal Situation

Glossary of Terms

Cochlear implant	A cochlear implant is an electronic device which consists of an internal implant and an externally worn speech processor. It can help to provide a sense of sound to a person who is profoundly deaf or severely deaf by directly stimulating the auditory nerve. An implant does not restore normal hearing but is able to provide many users with sufficient auditory information to make sense of sounds and help him or her to understand speech.
Communication Support Worker	A teaching assistant with BSL skills that works with deaf children who require sign language support. Some CSWs have undertaken related training
Deaf	This term refers to any level of hearing loss that reduces the ability of a person to hear in any situation including noisy environments.
Hearing aid	A hearing aid is an electroacoustic device which amplifies sounds. It is only suitable for a person who has some hearing and particularly helpful for people with mild or moderate hearing losses
Mild hearing loss	20–40dB. Without hearing aids a child may be able to hear a baby crying or music from a stereo but may be unable to hear whispered conversation (National Deaf Children's Society, 2012). They will be able to follow a conversation in a quiet environment but find it difficult in background noise.
Moderate hearing loss	41–70dB. Without hearing aids a child may hear a dog barking or telephone ringing but may be unable to hear a baby crying (National Deaf Children's Society, 2012). They will be able to follow a conversation in a quiet situation with hearing aids but find it difficult in background noise

<p>New born Hearing Screening</p>	<p>The New born Hearing Screening Programme (NHSP) aims to screen all new born babies to detect congenital moderate, severe and profound deafness/hearing loss. It consist of a simple test that checks the functioning of the inner ear. If this indicates there may be problem it is followed by a diagnostic test.</p>
<p>Profound hearing loss</p>	<p>>95dB. Without hearing aids or cochlear implants a child may hear an articulated lorry passing close by but not a phone ringing (National Deaf Children's Society, 2012). They will be unable to hear speech without a cochlear implant or powerful hearing aids. Hearing aids will only be able to amplify any hearing the person has. They will require additional visual support to access speech. They will find it difficult to follow speech in background noise. They will not be able to follow speech if they are more that approximately 2 metres from the speaker when using a CI or hearing aid without additional visual support or assistive technology in quiet situations.</p>
<p>Radio aid</p>	<p>A radio aid is a personal wireless systems that greatly improves the clarity of sound by allowing a human voice, or another sound source, to be fed electronically into the hearing aid or cochlear implant processor. This has the effect of reducing background noise and sound loss between speaker and listener (Connevens, 2015).</p>
<p>Resource Provision</p>	<p>Specialist team of teacher (s) of the deaf and teaching assistants based within a mainstream school who provide additional support for specific groups of pupils. The pupils will be drawn from a regional rather than local catchment area.</p>
<p>Severe hearing Loss</p>	<p>71–95dB Without hearing aids or cochlear implants a child may hear a chainsaw or drums being played but may be unable to hear a piano or a dog barking (National Deaf Children's Society, 2012). They will not be able to follow speech if they are more that approximately 2 metres from the speaker when using a CI or hearing aid</p>

	without additional visual support or assistive technology in the presence of background noise.
Sign Supported English (SSE)	SSE is not a language in itself. SSE uses the same signs as BSL but they are used in the same order as spoken English (British-Sign, 2015).

Appendices

Appendix A Low Incidence Needs and Disability



A description of Low Incidence Needs and Disability

Background:

In 2006 Peter Gray (with colleagues in the Special Needs Consultancy Research Team) was asked to undertake a national audit of “low-incidence” special needs for DfES. The most commonly used reference for low incidence special needs comes from that report.

A NatSIP working group was asked to consider a description of low incidence special educational need and disability which may be helpful to policy and decision makers in the 2012 environment. Whilst written for children and young people with sensory impairment this description may suit other low incidence groups.

This links with the work of the SEN Green Paper pathfinder pilots, especially the SE7, which has a focus on children and young people with low incidence SEND.

Description, adopted by NatSIP following consultation and revision:

Low incidence special educational need and disability (LISEND):

- **A need which has the potential to have an adverse impact on learning and development unless additional measures are taken to support the child/young person.**
- The prevalence rate is so low that a mainstream setting **is unlikely to** have sufficient knowledge and experience to meet these requirements. **Settings will need to obtain specialist support and advice on how to ensure equitable access and progression (against national standards).**

- **The prevalence rate is so low that any formula for allocating specialist resources for additional needs, which is based on proxy indicators of need, will not reflect the true distribution of children and young people identified as having low incidence SEND.**

Appendix B Ethics approval

B.1 Pilot Study

Performance, Governance and Operations
Research & Innovation Services
Charles Thackrah Building
101 Clarendon Road
Leeds LS2 9LJ Tel: 0113 343 4873

Email: j.m.blaikie@leeds.ac.uk



UNIVERSITY OF LEEDS

Jackie Salter

School of Education

University of Leeds

Leeds LS2 9JT

AREA Faculty Research Ethics Committee

University of Leeds

25 October 2015

Dear Jackie

Title of study: **A pilot study to evaluate the use of a focus group interview in investigating the issues teaching assistants meet within their role**

Ethics reference: **LTEDUC-020**

I am pleased to inform you that the above application for light touch ethical review has been reviewed by a School Ethics Representative of the ESSL, Environment and LUBS (AREA) Faculty Research Ethics Committee. I can confirm a favourable ethical opinion on the basis of the application form as of the date of this letter.

The following documentation was considered:

<i>Document</i>	<i>Version</i>	<i>Date</i>
LTEDUC-020application.pdf	1	12/04/12

Please note: You are expected to keep a record of all your approved documentation, as well as documents such as sample consent forms, and other documents relating to the study. This should be kept in your study file, which should be readily available for audit purposes. You will be given a two week notice period if your project is to be audited.

Yours sincerely

Jennifer Blaikie

Senior Research Ethics Administrator

Research & Innovation Service

On behalf of Dr Anthea Hucklesby

Chair, AREA Faculty Research Ethics Committee

B.2 Main study

Jackie Salter

School of Education

University of Leeds

Performance, Governance and Operations
Research & Innovation Service
Charles Thackrah Building
101 Clarendon Road
Leeds LS2 9LJ Tel: 0113 343 4873

Email: j.m.blaikie@leeds.ac.uk

Leeds, LS2 9JT



UNIVERSITY OF LEEDS

AREA Faculty Research Ethics Committee

University of Leeds

25 October 2015

Dear Jackie

Title of study: **Involving TAs in researching their own practice within the context of educating deaf pupils within mainstream secondary schools**

Ethics reference: **AREA 12-001**

I am pleased to inform you that the above research application has been reviewed by the ESSL, Environment and LUBS (AREA) Faculty Research Ethics Committee and following receipt of your response to the Committee's initial comments, I can confirm a favourable ethical opinion as of the date of this letter. The following documentation was considered:

Document	Version	Date
AREA 12-001 AREA 12-001 further information and clarification .docx	1	25/09/12
AREA 12-001 Consultancy group_consent_form.doc	2	25/09/12
AREA 12-001 parent_Guardian_consent_form.doc	1	25/09/12
AREA 12-001 student_consent_form.doc	2	25/09/12
AREA 12-001 TA Application.doc	1	03/09/12
AREA 12-001 TA DG_consent_form.doc	2	25/09/12

AREA 12-001 TA HT information .docx	1	25/09/12
AREA 12-001 TA HT_consent_form.doc	1	25/09/12
AREA 12-001 TA MS information .docx	1	25/09/12
AREA 12-001 TA MS_consent_form.doc	1	25/09/12
AREA 12-001 TA Parent Guardian information.docx	1	25/09/12
AREA 12-001 TA Student information(modified).docx	2	25/09/12
AREA 12-001 TA Student information.docx	2	25/09/12
AREA 12-001 TA Student modified_consent_form.doc	1	25/09/12
AREA 12-001 TA TA CG information.docx	1	25/09/12
AREA 12-001 TA TA DG information.docx	2	25/09/12
AREA 12-001 TA TA information.docx	1	25/09/12
AREA 12-001 TA TOD information .docx	1	25/09/12
AREA 12-001 TA TOD_consent_form.doc	1	25/09/12

Please notify the committee if you intend to make any amendments to the original research as submitted at date of this approval, including changes to recruitment methodology. All changes must receive ethical approval prior to implementation. The amendment form is available at www.leeds.ac.uk/ethics.

Please note: You are expected to keep a record of all your approved documentation, as well as documents such as sample consent forms, and other documents relating to the study. This should be kept in your study file, which should be readily available for audit purposes. You will be given a two week notice period if your project is to be audited.

Yours sincerely

Jennifer Blaikie

Senior Research Ethics Administrator
Research & Innovation Service

On behalf of Dr Emma Cave

Chair, AREA Faculty Research Ethics Committee

CC: Student's supervisor(s)

Research and Innovation Service

Charles Thackrah Building

101 Clarendon Road

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Appendix C Ethics Application

C.1 Ethics Application-Risks

A.10 What are the main ethical issues with the research and how will these be addressed? ¹⁹

Indicate any issues on which you would welcome advice from the ethics committee.

The study will involve deaf children under the age of 16 the following issues have been identified for this particular group of participants:

Deaf pupils may feel pressured to participate within the study:

It will be necessary to provide written information at an appropriate level to ensure the pupil fully understands the nature of the study. Each pupil will meet with the researcher prior to obtaining consent to ensure they have understood and do not feel in any way that they have to agree to take part.

Parents/ guardians of each pupil will be asked to provide consent for their child to take part.

Deaf pupils may feel pressured to provide a positive rather than accurate account of their work with a TA.

It will be made clear that everything they say during the meeting will remain confidential unless an issue of safeguarding emerges in which case the disclosure will be reported to the appropriate official within the school. This will be made clear to the pupil as part of the

recruitment and throughout the process.

Deaf pupils views are not accurately represented because of communication difficulties

The researcher will meet with each deaf pupil as part of the recruitment process, not only to ensure that they fully understand the nature of the project but also to assess the pupil's communication needs and to ensure that effective communication can be achieved. If necessary a BSL interpreter will be used.

Recruiting TAs to two different groups within the study.

In order to maintain confidentiality within and between the groups all data will be anonymised or pseudonymised before being presented to the Consultancy Group. Issues of confidentiality will be discussed with each group as part of the recruitment process and that an element of confidentiality will lie with each member of the group. This will be reiterated immediately prior to the data collection process.

RECRUITMENT & CONSENT PROCESSES

How participants are recruited is important to ensure that they are not induced or coerced into participation. The way participants are identified may have a bearing on whether the results can be generalised. Explain each point and give details for subgroups separately if appropriate.

C.7 How will potential participants in the study be:

(i) identified?

Teaching assistants supporting deaf children within mainstream secondary schools will be known to the local Hearing Impaired Service. The heads of these services will be approached and asked to distribute letters of invitation to join the focus group discussions.

(ii) approached?

Teaching assistants supporting deaf children in mainstream schools will be invited to join the study by letter. The letter will be distributed via Heads of Hearing Impaired Services who will be able to identify where these staff are working.

Teaching assistants will be invited to join either the data group or consultancy group

(iii) recruited? ²⁶

For those teaching assistants who are willing to take part in the Data Group it will be necessary to

gain the agreement of the other participants, i.e. the pupil and the parents of the pupil, Head teacher, the mainstream teacher and a teacher of the deaf. Information sheets will be customised for each of these participants and consent forms drawn up. Anyone willing to consider taking part in the study will be able to speak to the researcher to discuss any issues regarding the project.

C.8 Will you be excluding any groups of people, and if so what is the rationale for that? ²⁷

Excluding certain groups of people, intentionally or unintentionally may be unethical in some circumstances. It may be wholly appropriate to exclude groups of people in other cases.

Teaching assistants support to children in a number of different settings, including special schools, mainstream schools with resource bases, and mainstream provision with no specialist support on-site. It is this latter group that form the focus of this study so teaching assistants working within a different setting will be excluded from the project.

C.9 How many participants will be recruited and how was the number decided upon? ²⁸

It is important to ensure that enough participants are recruited to be able to answer the aims of the research.

A pilot study was undertaken partly to determine the most appropriate size of focus group to discuss the role of the teaching assistant supporting special needs pupils within mainstream a setting. A group size of between 4 and 6 participants facilitated a dynamic conversation that enables all the participants to contribute.

6 TAs will be recruited to the Data Group to generate sufficient data to address the research questions from a number of different settings.

In order to gain a detailed picture of the context in which the TA works it was appropriate to discuss the role with other individuals directly involved a working relationship in a classroom with the TA i.i. the pupil, mainstream teacher and Teacher of the Deaf

4 TAs will be recruited to the Consultancy Group, which when joined with the researcher will provide a discussion group of 5 participants. This will provide scope for discussion regarding the data but not prove too large to reach a group consensus when necessary.

Remember to include all advertising material (posters, emails etc) as part of your

application

C.11 Will informed consent be obtained from the research participants?³⁰

Yes No

If yes, give details of how it will be done. Give details of any particular steps to provide information (in addition to a written information sheet) e.g. videos, interactive material. If you are not going to be obtaining informed consent you will need to justify this.

A written information sheet will be provided. Should any interested party require further clarification then they will be able to contact the researcher by email or phone.

Written consent will be obtained.

If participants are to be recruited from any of potentially vulnerable groups, give details of extra steps taken to assure their protection. Describe any arrangements to be made for obtaining consent from a legal representative.

Several different approaches will be used when recruiting deaf pupils for the study.

1. They will be provided with an information sheet written at an appropriate language to ensure that they understand the nature of the project.
2. They will be asked to sign a consent form written at an appropriate language level to ensure they fully understand what they are agreeing to do.
3. The project will be discussed with them before proceeding to ensure all details and aspects are understood
4. Permission will be obtained from their parents or guardians for them to participate.
5. Appropriate level of language and communication support will be established prior to the observation and interview.
6. The pupil will be able to withdraw at anytime
7. They will not be pressured to take part at any point in the study.

Copies of any written consent form, written information and all other explanatory material should accompany this application. The information sheet should make explicit that participants can withdraw from the research at any time, if the research design permits.

Sample information sheets and consent forms are available from the University ethical review webpage at

http://researchsupport.leeds.ac.uk/index.php/academic_staff/good_practice/ethical_review_process/university_ethical_review-1.

RISKS OF THE STUDY

C.17 What are the potential benefits and/ or risks for research participants? ³⁵

Benefits for all the research participants

- engage in current research relevant to their everyday practice
- contribute to the body of evidence which may help inform future working practices

Potential risks for the participants

It is not anticipated that there is any risk to the adults involved within the study

The deaf pupils within the study maybe at risk from

- Feeling pressured to take part in the study
- Feel pressured to present positive rather than accurate information and may be concerned by possible repercussions.
- Not fully understanding the nature of the project or questions presented

DATA ISSUES

C.20. How will the research team ensure confidentiality and security of personal data? E.g. anonymisation procedures, secure storage and coding of data. ³⁷ You may wish to refer to the [data protection and research webpage](#).

Issue	Action
Electronic transfer of data on portable devices	All data will be encrypted during transfer
Sharing data	Data shared with the Consultancy group will be pseudonymised and no link will be made to other data which may render the participants more identifiable
Use of personal emails	Emails will not be sent using group addresses unless agree by the participants
Publication of direct quotations from	Quotations will be anonymised, if there is the

respondents	possibility that a participant may be identified from the quotation itself it will only be used with consent.
Use of audio/ visual recording	Data will be stored in encrypted files during transfer to the University M drive and deleted from the portable device. Once the data has been transcribed and anonymised or psuedonymised it will be deleted.
Storage data on manual files	Any such data will be stored within a locked filing cabinet within a locked office shared with other PGR students on University premises.
Home computer	Research data will not be stored on a home computer but on the University M drive and accessed from there when required
Personal data	Any personal data that may identify participants will only be stored on the University M drive

C.2 Additional Information

Application section	Comment	Response required/ amended application required/ for consideration
C18	You have ticked the no box for lone working but have indicated that you would be prepared to meet participants outside of the school premises at a mutually convenient location. What type of location were you thinking of here?	For consideration
Response	<i>Locations will be within a school, educational establishment or university building.</i>	
C18	There is no risk assessment done for this research	For consideration
Response	<i>Risk assessments will be undertaken for any visits to schools in accordance with the School of Education practices</i>	
C.20	Under personal emails – you talk about using group addresses if agreed by participants. I am not sure why you would want to do this and don't think this is appropriate.	Response required
Response	<i>All emails will be sent to individuals rather than to the group to protect individual privacy of replies.</i>	

C20	You have not mentioned what will happen to the 'video' recorded data?	Response required
Response	<i>Video recorded data will be kept as .mp4 files and audio as .wma files on the secure password only access M-Drive until the study is complete and will then be destroyed. This information has been added to all the information sheets</i>	
C21	Length of time for storage of data missing	Response required
Response	<i>Apologies for this omission. Video and audio recorded data will be kept until the end of the project. All other data will be stored for 10 years.</i>	
Information sheets	<p>There were two types of information sheets for students, presumably written for different age groups.</p> <p>Will a child understand the terms 'mainstream school' and 'mainstream teacher'?</p> <p>There are some grammatical errors and typos in the information sheet which need to be reviewed.</p> <p>Also does the child need to know what will happen to the video?</p> <p>In the second information sheet for the student abbreviations are used e.g. TA, TOD. It would be a good idea to write these out in full so that the meanings are clear.</p> <p>There is no information sheet for parents.</p> <p>Information sheet for the Data group – what appears in there are a list of the activities</p>	Response & amended information sheets required

	<p>the participants will be required to do. However these are not clearly identified under C2 and appear to be different. Under 5 you say you are going to repeat the video etc. Is this with a different student? This is not mentioned in the main body of the submission. Please clarify exactly what is expected.</p> <p>There are no information sheets or consent forms for any of the other groups; mainstream teachers, Teachers of the Deaf and the TA reference group.</p> <p>The reviewers had also expected to see the covering letter/ email which will be going to the Head teachers of the schools seeking permission.</p> <p>Also if participants withdraw what happens to the data already collected?</p>	
Response	<p>Copies of the information sheets and consent forms were submitted with the hard, signed copy of the application, my apologies- electronic versions are now attached.</p> <p>I have adjusted the information sheets in response to the comments above.</p> <p>“mainstream” has been qualified</p> <p>The errors and typos have been corrected</p> <p>TA and TOD have been expanded</p> <p>The information provided in C5 and on the Data group information sheet is now consistent.</p> <p>The remaining information sheets and consent forms have been attached.</p>	

	<p>Should the participants choose to withdraw they can request that their contribution to the data be removed. This has been added to the information sheets.</p>	
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Appendix D Deaf Students Information and Consent Forms

D.1 Standard Information

Teaching Assistants Supporting Deaf Children in Mainstream Secondary Schools:

An investigation of the role from the teaching assistants' perspectives

Information Sheet- Student

You are being invited to take part in a research project being undertaken at the University of Leeds as part of a Ph.D. study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the project's purpose?

As part of the government's review of education, particularly for those students who have special educational needs, the role of the teaching assistant is coming under great scrutiny. Approximately 80% of deaf children are now educated within mainstream schools many of whom are allocated a teaching assistant. This project aims to explore the nature of that role and to consider the framework in which it is applied within the current context of inclusion and knowledge about deafness and learning

Teaching assistants who are currently working with deaf students in mainstream schools will have an extremely valuable perspective and insight to bring to this research. Information has been collected from interviews with a number of teaching assistants working with deaf children. More detailed information needs to be collected through closer consideration of the day to day practice of TAs in their, own setting. In order to achieve this, a number of case studies will be undertaken to observe TA practice in the classroom and discuss the context in which they work

The project has three main aims:

- **To investigate the role of the TAs working with deaf children in mainstream secondary schools from the TA perspective**

Giving rise to the second and third aims:

- **To engage TAs in researching their own practice and to consider how this perspective may impact on the development of the role**
- **To contribute to methodological knowledge by investigating the potential contribution of participatory research methods for developing our understanding of the TA role.**

Why have I been chosen?

You have been invited to take part in the case study as your TA has offered to take part in the study and you have expressed an interest in taking part as well

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time without it affecting any benefits that you are entitled to in any way. You do not have to give a reason.

What will being part of the Case study involve?

- Being videoed working with your teaching assistant within a mainstream lesson for 30 minutes
- An interview with the researcher to discuss how your teaching assistant supports you

The study will also include

- The TA interviewed following the recording
- The TOD who supports you will be interviewed
- Your mainstream teacher, in the lesson in which you are videoed will be interviewed

Will there be any disadvantages?

It is not anticipated that the involvement in such a case should be a disadvantage to any of the participants.

What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people willing to participate in the project, it is hoped that this will provide participants with the opportunity to:

- engage in current research relevant to their everyday practice
- contribute to the body of evidence which may help inform future working practices for TAs

How will the content of the observation and interviews be recorded?

The video will be used to initiate conversation with your TA regarding their role.

The interview will be audio recorded and then transcribed verbatim. At this stage all names and identifying information will be removed.

What happens if the research study stops earlier than expected?

If it is necessary for the research study to end earlier than expected reasons for that decision will be provided to the participants.

Will my taking part in this project be kept confidential?

Any contributions made during the interviews and observation will be kept strictly confidential. Your will not be able to be identified in any reports or publications.

Will I be able to withdraw?

You are free to withdraw from the case study at any time during the duration of the project.

What will happen to the results of the research project?

The research project described above forms the basis of a thesis for a Ph.D. and it is anticipated that the project will be completed in autumn 2014.

Articles regarding the project may be published in professional journals. A report regarding the outcomes of the project will be made available to all participants.

Contact for further information

Should you require any further information or would like to discuss the project in more detail please do not hesitate to contact me

Jackie Salter,
School of Education
E.C.Stoner 9.91
University of Leeds
Leeds
LS2 9JT
telephone (0113) 343 4585
e-mail address: edujsal@leeds.ac.uk

Many thanks for taking the time to read this information and for considering taking part. I do hope you feel you can join me.

- 260 -

Kind regards,

Jackie Salter

D.2 Standard Consent

Consent to take part in:

Involving TAs in researching their own practice within the context of educating deaf pupils within mainstream secondary schools

Student

Add your initials next to the statements you agree with

I confirm that I have read and understand the information sheet dated _____ explaining the above research project and I have had the opportunity to ask questions about the project.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. Please contact Jackie Salter edujsal@leeds.ac.uk	
I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. My contributions and suggestions regarding the project will be anonymised. I understand that my responses will be kept strictly confidential	
I agree for the data collected from me to be used in relevant future research.	
I agree to take part in the above research project and will inform the researcher group coordinator should my contact details change.	

Name of participant	
Participant's signature	
Date	
Name of research coordinator Jackie Salter	
Signature	
Date*	

*To be signed and dated in the presence of the participant.

D.3 Modified Information

Teaching Assistants Supporting Deaf Children In Mainstream Secondary Schools: A investigation of the role from the teaching assistant perspective

Information Sheet- Student

Would you like to take part in a research project?

Yes?

Then please read the following information. It is important you understand what will happen and why before you agree to take part. Talk to other people about it and asked any questions you would like.

Take your time and think about it.

Thank you

What is the project's purpose?

Many deaf children go to mainstream schools and work with teaching assistants. We would like to know more about how they work with deaf children in the classroom.

The project has three main aims:

- **To find out more about how teaching assistants work with deaf children in the classroom**
- **To let teaching assistants tell us about their job**
- **To learn more about how teaching assistants can help us find out about what they do and why they do it**

Why have I been chosen?

Your teaching assistant has offered to be part of the study and you have said you might be interested as well.

Do I have to take part?

No , you do not have to take part.

If you do decide to take part you will be given this information sheet to keep and be asked to sign a form to say you are happy to take part.

If you change your mind and decide you no longer want to take part you can at any time. You do not have to tell us why.

What will being part of the Case study involve?

- Being videoed working with your teaching assistant within a mainstream lesson for 30 minutes
- A talk with the researcher to tell us how your teaching assistant supports you in class

The study will also include

- talking to the teaching assistant
- talking to your teacher of the deaf
- talking to your mainstream teacher

Will it cause me any problems?

No we do not think that being part of the study will cause you any problems

What will I gain from being part of the study?

You will not be given anything for taking part in the study, but it will give you the chance to talk about how you working school with your teaching assistant. This information will be used to try and make sure that deaf children get the best possible support in school.

You will be helping with this.

How will the content of the observation and interviews be recorded?

The video recording will be used when talking with your teaching assistant.

When the researcher talks with you it will be recorded. After the talk, everything will be written down and your name and school will be removed so nobody will be able to tell it was you giving us the information.

What happens if the research study stops earlier than expected?

If we have to finish the project early we will let you know why

Will anybody be able to tell it was me talking?

No, your name and the name of your school will not be used in anything.

Can I stop taking part at any time?

Yes and you do not have to tell us why you want to stop.

What will happen to the information I give you

The information will be used as part of a Ph.D. thesis.

Some of the information may be used to write reports published in professional journals. A report will be written at the end for anybody who has taken part.

Contact for further information

Should you require any further information or would like to talk about the project in more detail please do not hesitate to contact me.

Jackie Salter,
School of Education
E.C.Stoner 9.91
University of Leeds
Leeds
LS2 9JT
telephone (0113) 343 4585
e-mail address: edujsal@leeds.ac.uk

Thank you. I do hope you feel you can join me.
Kind regards,

Jackie Salter

D.4 Modified Consent

Consent to take part in:

Involving TAs in researching their own practice within the context of educating deaf pupils within mainstream secondary schools

Student (modified)	Add your initials next to the statements you agree with
<p>I have read and understand the information sheet dated about the research project</p> <p>I have had the chance to ask questions about the project.</p>	
<p>I understand that it is my choice to take part</p> <p>I understand that I can stop at any time without saying why and that this will not be a problem</p> <p>I understand that I do not have to answer a question, if I do not want to</p> <p>Please contact Jackie Salter edujsal@leeds.ac.uk</p>	
<p>I understand that my name will not be used and nobody will be able to tell that it was me getting information,</p> <p>Everything I say will be kept confidential</p>	
<p>I am happy for my information to be used in the future.</p>	
<p>I agree to take part in the above research project and will tell the researcher if I change schools.</p>	

Name of participant	
Participant's signature	
Date	
Name of research coordinator	Jackie Salter
Signature	
Date*	

*To be signed and dated in the presence of the participant.

Appendix E Code Book

E.1 Stage 2: Analysis

Code Book

Stage 2: analysis:

Identifying the relevant data from the focus Group discussions and the Individual Interviews

A. Teaching assistants talking about learning

RQ1 What language and terminology do teaching assistants use to describe learning? (How do they talk about learning?)

Include

- Phrases or sentences that refer explicitly to an individual pupil's learning or an interaction with a pupil that supports an individual's learning, e.g. *"...he struggles with maths..."*
"...I was trying to break it down..."
- Phrases or sentences that refer explicitly to a teaching assistant's belief about learning, e.g. *"...bit of humour. They're going to learn more if they are having fun, That's my belief."*

Do not include

- phrases or sentences that infer or imply a particular view regarding learning and therefore requires interpretation, e.g. *"...if it's a quiet lesson where you'll be mostly working..."*
- words spoken by the researcher

Unless a teaching assistant has used a phrases or sentence to describe a scenario in order to explain their thinking rather than providing a direct explanation. The meaning must be clear from the context of the wider conversation,

e.g. *"...after school...sometimes they pop into have a chat...they've spoken of marriage as well and they say will our hearing ever get better?"*, in describing and discussing the importance of developing self-confidence and the role of a teaching assistant in the process.

B. Challenges deaf students experience in mainstream classrooms

RQ2 - What challenges do the teaching assistants describe deaf children experiencing within the mainstream secondary classrooms?

Include:

- Sentences, phrases and dialogue that describe challenges and issues that impact directly on deaf pupil's learning in the classroom.
e.g. "They're not picking up everything the teacher says so you check up on whether they understand..."
- Sentences, phrases and dialogue that refer to challenges and issues teaching assistants experience that impact on their ability to support the learning of deaf pupils
e.g. "... have a notebook that they are supposed to write in if they are struggling with certain topics so I can pick it up with them ... what they have understood, what they haven't understood and to try to get the links with the teachers to try to find out what they are going to be doing next."

Do not include:

- Challenges and issues related to other pupils support needs

Unless they impact directly on the deaf child's learning

e.g. "... because they are usually a bad group...there was a lot of distraction around him from the lad behind..."

- Challenges and issues teaching assistants experience in carrying out their role that are not directly related to supporting deaf pupils' learning,

Unless they have a direct impact on the deaf pupil's learning, for example

Researcher *"...are you familiar with the material being taught here?"*

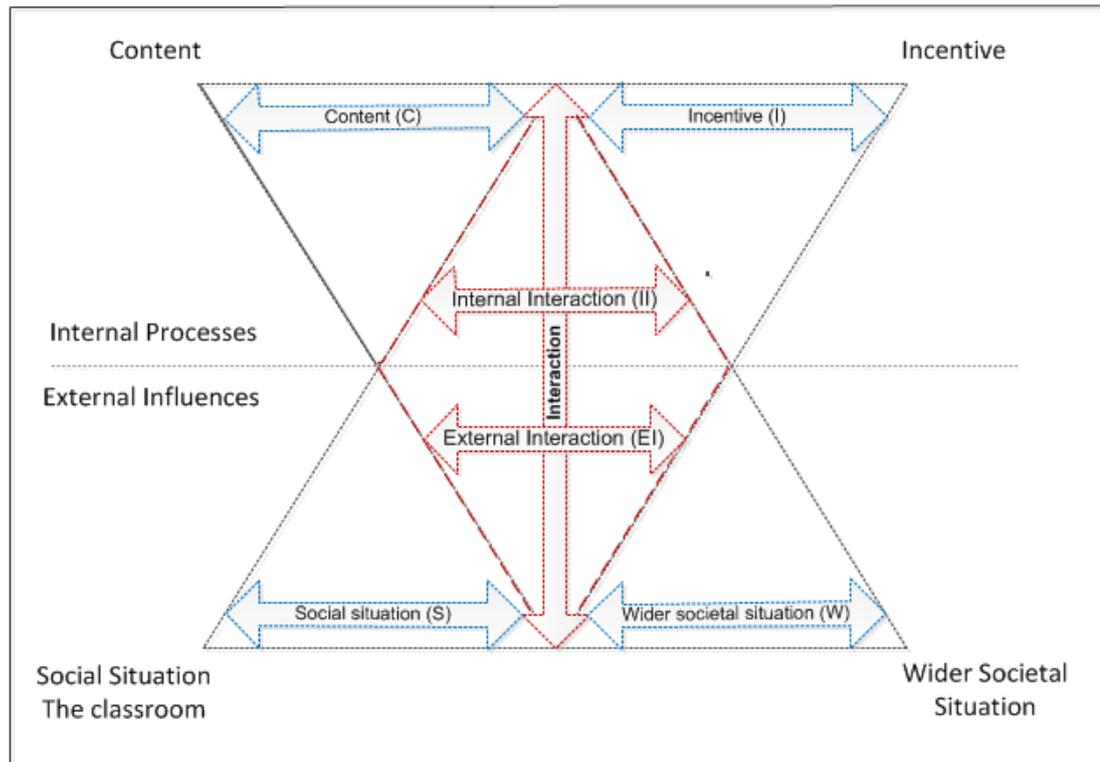
Teaching Assistant *"Not this particular lesson because I wasn't with them. I was on a trip. That's why I missed the introduction to this poem they're discussing..."*

N.b. Data may fall into both categories and in such cases should be included in both data sets

E.2 Stage 3: Analysis

Stage three analysis: Coding the data with reference to Illeris' Complex Learning Model CMF, adapted for deaf learners CLF (DL)

Figure 1 illustrates the position of the coding categories within the CLF (DL)



The following descriptions and examples provide the coding strategy for the data identified in stage two of the analytical process.

A. Content- internal cognitive function and content of learning (C)

This refers to the **internal process** of the content of learning and includes knowledge, skills, the construction of meaning and the development of abilities and skills.

Include words, phrases, sentences or dialogue that refers directly to the pupils' **internal** process of

- Knowledge acquisition
- The knowledge acquisition process and cognitive functioning

e.g. "...now he's just writing down the learning objectives just so that he knows what is going on in the lesson. So I have also written the learning objective down because sometimes if the teacher is talking while the learning objective is being written down he'll be trying to focus on them. So I've got it if the teacher moves on to the next slide then it's down on the paper for him"

Include words, phrases, sentences or dialogue that refers to teaching assistant support that is directly related to

- Knowledge acquisition
- The knowledge acquisition process and cognitive functioning

For the deaf pupil

e.g. *“...Just checking his understanding, there was increase and decrease and I was just checking his understanding of what they [the words] meant and he didn't actually know which way round they were. So I'm just drawing diagrams to show him increase is up and decrease is down...”*

N.b. Any comments relating the pupil's language skills should be coded within Internal or External interaction

B. Incentive- body and mental balance (B)

This refers to the **internal processes** that provide body and mental balance that facilitates effective learning. It includes:

- Emotions and feelings of motivation, confidence etc.
- Physical well-being for example warm, comfortable, alert, not hungry etc.

Include words phrases, sentences or dialogue that refer directly to the pupil's internal balance and well-being

e.g. *“...Yes, you know he just wanted to fit in. He didn't want the attention to be on him...”*

Include words, phrases, sentences or dialogue that refers to teaching assistant support that is directly related to the internal

- Emotions and feelings of motivation, confidence etc.
- Physical well-being for example warm, comfortable, alert, not hungry etc.

of the deaf pupil.

e.g. *“...also he has got to try things independently, he has got to be able to try and work it out himself make mistakes to learn so that he can get it right...”*

N.b. Any comments relating the pupil's language skills should be coded within Internal or External interaction

C. Internal Interaction and resources for interaction(II)

This refers to the individual pupil's linguistic and communicative resources such as may be identified by formal assessments. It includes references to the pupil's linguistic skills and the internal resources they have. It includes

- Vocabulary, grammatical structure
- Ability to express ideas
- Skills and confidence to be independently proactive in facilitating effective communication

Include words, sentences or phrases that relate directly to the pupil's language skills and knowledge and willingness and confidence to interact within different situations

e.g. *"There might be a simple word that the HI pupil may not have come across before..."*

Include words, sentences or phrases in which the teaching assistants refer to the pupil's language skills and knowledge and willingness and confidence to interact within different situations

e.g. *"...they don't always understand what is being said so they need those cues there..."*

D. External Interaction (EI)

This refers to the external process of interaction between the deaf pupil and other members of the learning community including teaching assistants, teachers and peers.

It includes references to

- The pupil's language use
- Participation opportunities
- Effectiveness of the communication
- Acoustic environment
- Use of audiological equipment by members of the class community
- Implementation of effective communication strategies

Include words, sentences or phrases that relate directly to the pupil's interaction with others

e.g. *"Someone will put their hand up and give an answer and your hearing impaired (deaf) pupil is sitting there waiting to give the answer and will say exactly the same as the other person has just said"*

Include words, sentences or phrases in which the teaching assistants refer to factors in the environment that support or reduce the pupil's ability to interact with others.

e.g. *"... if they're (the radio aids) not working they're not going to pick up much in class."*

"...hearing-impaired students cannot hear over the background noise of projector ... and subtitles would just be just brilliant..."

E. Social Situation (classroom) (S)

The Social Situation (classroom) refers to aspects regarding the organisation management, structure and culture of the specific classroom learning environment that may impact on the pupil's learning. This includes

- Attitudes of staff and peers
- Teaching styles and approaches
- Working practices within the immediate classroom environment.

Include words, sentences or phrases that relate to examples of events within a classroom that impacts on a pupil's learning experience in the immediate classroom environment.

e.g. *"Yes they understand you more because they've got this relationship with you they can ask you three times they can't ask the teacher again and again."*

Include words, sentences or phrases in which the teaching assistants refer to factors in the environment that support or reduce the pupil's ability to learn within the classroom environment

e.g. *"...because if you know your subject inside out you can step in at any time and help the pupil"*

N.b. Any comments relating the pupil's language use should be coded within Internal or External interaction

Include words, sentences or phrases in which the teaching assistants refer to or discuss potential influences of the immediate classroom environment

Do not included references to the external influences that have resulted in a particular practice in the classroom. These should be coded as W.

F. Wider Societal Situation (W)

The Wider Societal Situation relates to wider societal influences that impact on the classroom culture and organisation and on the pupil's learning within the classroom environment. This includes factors such as:

- Expectations of teachers and parents
- School ethos
- Government policies
- Social interactions from outside the classroom
- Cultural influences
- Working relationships with adults both in the wider school and external services

Include words, sentences or phrases that relate to examples of influences from outside the classroom that influence the nature of the learning experiences in the classroom environment.

e.g. “... *their focus is to get those girls through, yes? Could be another year? Get the exam results.*”

“There's no point in them being in a language lessons were they not able to access English, let alone a foreign language so they take them out of the modern foreign language lesson ...”

Include words, sentences or phrases in which the teaching assistants refer to or discuss potential influences from outside the classroom that influence the nature of the learning experiences in the classroom environment.

“...at the moment there is more of a push within our culture to educate the girls where as its maybe not so much before but now everybody's into it ... getting them tutored ... so they're coming out with something.”

Do not include examples of the manner in which these influences manifest themselves in the classroom, these should be coded as SS.

N.b. Any comments relating the pupil's language use should be coded within Internal or External Interaction

Appendix F Transcripts

F.1 Sample of data transcript for F1

152	Jackie	27.41	And getting the teacher to understand that you still need to support the hearing-impaired	
153	S		Yes, because actually maybe he could get a B	
154	J		Exactly	
155	M	27.53	I think so but with OFSTED now concentrating on special needs and resource bases there's more emphasis on what the kids are getting out of that. I think some schools are just getting it wrong that the statement of children getting 20 min of the TA but getting 20 min of what- a lesson in my school is one hour 15 min, 20 min with one students and the gap and go to... It's too clinical with hearing-impaired and any other student with a disability or learning difficulty. It can't be clinical. These are not machines. You can't just be dishing it out. There is part of you is you need to put in because you need to bond with the child and everything, but now it's like every statement a child needs 20 min at least, of the TA but one hour 15 min. How'd you do that, I think some schools are just going round the wrong way. I think I hearing-impaired students are the ones because the disabilities not... You cannot see it, yes they cannot hear you but that doesn't mean they are going to access your lesson and we're just churning out a machine. Now we're not giving them what you know they need to do for them to be successful. The ones in year 11. They need to leave with some qualifications... You can't, you know... I don't know. I find it very difficult	
156	S	29.22	So would you say your H I pupils are treated differently	
157			Oh yes	

158			Oh really	
159			Oh yes I would say that	
160	S		I think my problem is like you said because it's something that's unless they were hearing aids, you can't see teachers forget so they are treated exactly the same as everybody else until suddenly its oh you haven't got the microphone high enough or you know	
161	M	29.49	And if parents. This also works from the parents if the parents and some do not care, if the parents are not clued up, and you know if the grades are coming down and they are not clued up these kids are just brushed out by year 11 okay fine go. But some parents just stand up and say no, this is not right. This child is doing this and they don't question the progress of their child's they sit up and you know it's all yes M can you just sit and support this child	
162	J	30.18	How was it for you N?	
163	N		I don't know... At our school it's not that big. It's only 600 girls. It happens in year seven when teachers forget the new girls. They don't get familiarised with the hearing-impaired girls but the older girls all the teachers know them and we've got displays, photos, everything will difficulties they have...they know	

Appendix G Themes identified within F1

Describing the teaching assistant role within a mainstream secondary school

The following boxes represent the main themes that I felt were raised during the discussion, you may not agree! I would appreciate your thoughts as well points raised that I have put in the following categories

The TA role

Maintenance and management of audiological equipment

Pastoral support-social and emotional support

Understanding their individual needs

Developing independence- this was raised on a number of occasions

Liaising with external professionals

Liaising and supporting parents

Checking understanding during lessons

The TA/Hi pupil relationship

Providing a balance between caring and being professional

Good communication.

Provide someone to whom the pupil can turn

Develop self-esteem and confidence of pupil

TA training for working with HI pupils

Predominantly around management of audiological equipment

Not regular, or consistent

Although this was not stated explicitly strategies and basic deaf awareness within the classroom

The role of the teacher of the deaf

Did not feature very prominently in

Additional responsibilities

Form tutor
Subject specialty
Homework clubs

Homework clubs

Running homework clubs, the children with SEN/hearing impairment

Subject-based TA's

Challenges and issues

Policy and Practice

Lack of timetable time for one-to-one sessions

Liaising with teachers

Lunch and break times

Preparation and planning to support HI pupils

Availability of plans for TAs and their need to have access to them

Lack of understanding from the Senior Leadership Team of what support entails and how it needs to be facilitated in school

Confusion about the role across school leading to different teachers' expectations of what the TA will do in the classroom

Individual Teachers

Older teachers less flexible

Inconsistency in the willingness of teachers to adapt their teaching styles

Seemingly indifference of teachers to the needs of deaf pupils

Differing expectations of teachers

Teachers understanding of the role as the TA supporting HI pupil

Failure to follow basic deaf awareness practice by some teachers

Lack of consistent approach to the use of technology, as well as an understanding of the benefits the technology may bring as well as its limitations

Different teachers' attitudes towards support- TA will look after them/TA will do my photocopy

Appendix H Sample of agreed Minutes from C1

Consultancy group meeting 1-notes

In attendance researcher TA 1 TA 2 TA 4

It was agreed that the future meetings just the written transcript would be sent.

Audiological Technology Management

- Audiology management was discussed, particularly with reference to safety and fire alarms.
- Aware of the practical use and management of equipment is there the mechanism to feedback.
- Clearly different range of responsibility management? repair?
- Radio aids ensuring used effectively
- Agreed staff and students see day to day management of the equipment as integral to the role

Social and Emotional support

- KS3 Y7 and Y8 pupils are much easier to manage than older pupils
- Y9 seems to be an important year for support to use aids and maintain standards
- For BSL kids more about attitude and keeping aware of the signer
- Growing awareness of deafness and potential dip in progress
- Importance of involving parents
- Some TAs not involved with parents at all
- Not good mixing with the hearing children- parents been over protective
- Should be allowed to mix but relationships often difficult
- Different characters
- Base is an escape for them
- If pupil were more focussed could do better
- Acknowledge that pupils-boys like to join in the silliness

Have I got the role right? Yes but some things differ

- Level of involved with parents
- pre/post tutoring in some schools but does occur in others
- importance and emphasis placed on of reinforcing language/English
- Development of resources
- Differentiating the work
- Role of TA in general behaviour management
- Expectations of the pupils and groups the TA will/will not work with
- Variable response to TA interrupting or feeding back during the lesson
- TA describe different ways they influence practice, where the pupils are educated and how the material is presented

What have I not emphasised enough?

- Knowledge of teachers and consequences for
 - Class room management, teaching strategies
 - Impact of deafness on language

Appendix I Suggestions for Final Meeting Agenda

Summary

3-5 things you feel are essential to understand about a deaf learner or how a deaf learner learns within the mainstream classroom

Knowledge about pupil

- I feel at first it is very important to learn as much as possible about the child concerned and about his/her impairment.
- A TA needs to know the level of hearing loss the student has and if there are any other needs they may have
- By learning about this child you will hopefully learn about his/her weakness and strengths as this will help us to plan a strategy for him/her to have access to the curriculum more easily
- Importantly get to know your student, likes n dislikes etc.

Knowledge of technology and subject matter

- Basic knowledge of the kind of hearing aid n equipment used is good. Always carry batteries to do a quick change. So the student does not miss out.
- Knowledge of subject taught is helpful when TA may have to explain or give further ideas, if the student does not understand

Interaction strategies necessary because of deafness

- pupils is reluctant to ask teacher questions so the TA has to check that he has understood the L.O. and task
- pupils will only copy notes off the board and will miss the extra instruction or hints that the teacher gives to the class
- It is very important to write new words on the board so the HI learners can add these into their vocabulary books.
- Ensure one person speaks at a time

Positioning and specialist equipment strategies needed in classroom

- HI pupils to be seated at the front of class where sunlight or white board light is not a distraction.
- Pupils need to face the teacher as many will lip read and use this to help them understand task.
- Radio aid should be always worn by staff or placed in centre of table when group discussions are taking place
- Pupils wear their hearing aids and transmitters.

Resources necessary because of deafness

- Having visual aids so the HI student does not have to focus too hard on imagining what is being said
- Using subtitles when showing DVDs.

Strategies away from classroom

- I also think it would be an idea to meet with the child on a regular basis to see if he/she is having any problems in school, if he/she is happy with the support he/she is getting.
- I also believe it is very, very important not to label the child – i.e. deaf child/pupil, I prefer to always refer to the child/pupil as the 'child with hearing impairment'. A child will pick up on the labelling and I feel will make him/her less feel less confident about him/herself.
-

3-5 strategies you use and why they are helpful for the deaf pupil

Interaction

- Questioning- in the lesson keep asking questions to reinforce learning and determine how much of the lesson he has understood
- Checking the students understanding as the lesson progresses so that the learning is taking place.
- Allowing the HI students thinking time before answering questions
- Know what type of learner yr. HI student is.
- TA to take notes to support individual as they may find it difficult to listen and make notes at any one time.
- Some pupils refuse your support in class, so we will be there in the back of the class or helping other pupils but will always observe the pupil to see if he/she is struggling with work or is not paying attention and will just remind him/her that we are still there to help him/her

PRE Post tutoring/support out of classroom to improve learning in the classroom

- Pre and post tutor the HI pupil so prior to the lesson the HI pupils will have an understanding of what the lesson will be about.
- Pre tutoring- having access to key terms for subjects prior to lesson will help build confidence.
- Post tutoring - iron-out any problems, discussion to establish how much pupil has understood of the lesson.
- Meeting with pupil to resolve any issues relating to his learning in class.
- Pre/post tutoring works very well.
- I would meet up with the children with hearing impairment whenever I can and just ask how they are getting on. This helps the pupil to feel secure in the knowledge that there will always be help at hand whenever they need it.

Teachers

- Teachers within the school are kept informed about pupils with hearing impairment; they have had some training in how to deliver lessons – i.e. making sure that the Teacher is always in full view of the pupil, adapting resources whenever possible to suit the needs of the pupil concerned.
- Make sure teacher writes on the board rather than giving instructions verbally like tasks, learning objectives n homework.
- Seating plan- sit pupil at front and facing teacher so they don't have their back to the pupil.

Resources

- Using videos/DVDs/YouTube and connecting radio aids to the hard drive using splitters.
- Visual clues, resources help a lot. So involvement in lesson planning is good.
- Have a book for keywords or new words.

Parents

- We also do keep in constant contact with the parents – have coffee mornings, have had home visits in the past, etc as this helps us to have a better home/school relationship keeps the parents informed of any issues that may arise

3-5 challenges you face on a day to day basis in your role supporting deaf pupil's learning

Use of hearing technology

- Some teachers not wearing the radio aids even if they have HI students in their class.
- Sometimes students forgetting to give radio aids to staff.
- Students not zapping other HI students in the same class.
- We often have to deal with pupils who are un-cooperative in wearing their hearing aids or using their radio aids and also do not want the support in class.
- pupils reluctance to wear hearing aids, particularly boys

Teachers

- Getting some of the staff to take on board the strategies that we as TAs have to help pupils/ lack of communication/ etc.
- Some teachers not wearing the radio aids even if they have HI students in their class.
- Teachers not planning lessons that include a HI student fully. Videos with no subtitles etc.
- Teachers expecting T A to crowd control.
- Teachers not willing to interact with HI students.

- time sharing , may have many other pupils in class needing support

Pupils cooperation

- HI students not sitting at the front of class where they have been asked to do so.
- we need more cooperation from the pupil
- Missing lessons because they are often absent hence lose confidence in themselves.

Parents

- Lack of support from parents.....I feel is essential as this helps us in our role when supporting pupils who are deaf.
- Lack of parental support when things go wrong in the classroom

Areas selected for Discussion

Knowing your pupil v knowing your subject✓

Different requirements of a deaf learner✓

Knowledge and understanding of the mainstream staff✓

Impact in classroom✓

Checking understanding✓

Meeting pupils away from class✓

The following two topics did not appear in the TA lists but the first was identified in the literature as a significant issue and the second has been raised at several points during previous discussions and I felt that it needed to be explored further:

Developing independence as a learner✓

Where does the TOD fit in✓

Appendix J Consultancy Group

J.1 Information sheet

Teaching Assistants Supporting Deaf Children In Mainstream Secondary Schools: A critique of the role from the teaching assistant perspective

Information Sheet- Consultancy Group

You are being invited to take part in a research project being undertaken at the University of Leeds as part of a Ph.D. study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the project's purpose?

As part of the government's review of education, particularly for those children who have special educational needs, the role of the teaching assistant is coming under great scrutiny. Approximately 80% of deaf children are now educated within mainstream schools many of whom are allocated a teaching assistant. This project aims to explore the nature of that role and to consider the framework in which it is applied within the current context of inclusion and knowledge about deafness and learning

Teaching assistants who are currently working with deaf students in mainstream schools will have an extremely valuable perspective and insight to bring to this research. In order to enable teaching assistants to shape this research you are being invited to join a consultancy group which will be involved in directing the research and drawing conclusions from the data collected. You will not require any previous experience of research in order to contribute effectively to the project.

The project has four main aims:

- To examine the current role of the teaching assistant working with deaf children in mainstream secondary schools within the current context of inclusion and knowledge about deafness and learning
- To engage teaching assistants within this process so as to bring their perceptions, understanding and experience to shape the research and provide a new and very relevant perspective.

- To contribute to methodological and professional knowledge by engaging teaching assistants within the research process.
- To contribute to the development of policy and practice through the contribution of a new perspective

This will be undertaken during the course of the next 18 months and consist of two main phases of collecting data initially through focus group interviews and then it is anticipated closer investigation of some of the issues as determined by the consultancy group. Time will then be taken to discuss the implications for policy and practice.

Why have I been chosen?

You have been invited to take part in the advisory group as you have expressed an interest in taking part in research and are currently supporting a deaf child within a mainstream school.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time without it affecting any benefits that you are entitled to in any way. You do not have to give a reason.

What will being part of the Consultation Group entail?

This will involve:

- attending approximately 6 to 8 meetings throughout an 18 month period
- each meeting should last between an hour and two hours in order to
 - discuss the focus of the study
 - discussing the information collected to inform the next stage of the research
 - discussing and agreeing key issues raised in the data
- reading the transcripts, or listening to recordings of selected interviews and observations prior to meetings
- reflect on being involved within the research process
- the initial meeting will be held at Leeds University campus, arrangements regarding subsequent meetings will be agreed by the group

Will there be any disadvantages?

It is not anticipated that the involvement in such a consultancy group should prove any disadvantage to any of the participants.

Travel expenses to and from the meetings will be reimbursed.

What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people willing to act in a consultancy capacity in the project, it is hoped that this will provide participants with the opportunity to:

- engage in current research relevant to their everyday practice
- gain a greater knowledge of the policy, framework and structures in which their role exists
- gain a greater understanding of the experiences of their peers within different educational establishments
- gain a greater understanding of the perspectives of leaders and policymakers the influence their day-to-day life
- contribute to the body of evidence which may help inform future working practices

How will the content of the meetings be recorded?

It is anticipated that the contents of meetings will be audio recorded and then in written minutes which will be circulated to members to ensure accuracy. The minutes of these meetings will remain confidential. The outcomes of the meetings will be used to inform the research and form part of the final thesis. Such information will be anonymised.

What happens if the research study stops earlier than expected?

If it is necessary for the research study to end earlier than expected reasons for that decision will be provided to the participants.

Will my taking part in this project be kept confidential?

Any contributions you make during the discussion and design of the project will be kept strictly confidential. You will not be able to be identified in any reports or publications.

Will I be able to withdraw?

You are free to withdraw from the Consultancy group at any time during the duration of the project.

What will happen to the results of the research project?

The research project described above forms the basis of a thesis for a Ph.D. and it is anticipated that the project will be completed in autumn 2014. Articles regarding the project may be published in professional journals. A report regarding the outcomes of the project will be made available to all participants.

Contact for further information

Should you require any further information or would like to discuss the project in more detail please do not hesitate to contact me.

Jackie Salter,

School of Education
E.C.Stoner 9.91
University of Leeds
Leeds
LS2 9JT
telephone (0113) 343 4585
e-mail address: edujsal@leeds.ac.uk

Many thanks for taking the time to read this information and for considering taking part.
I do hope you feel you can join me.

Kind regards,

Jackie Salter

J.2 Consultancy Group consent

Consent to take part in :

Teaching Assistants Supporting Deaf Children in Mainstream Secondary Schools: A critique of the role from the teaching assistant perspective

Consultancy Group

Add your initials next to the statements you agree with

I confirm that I have read and understand the information sheet dated [insert date] explaining the above research project and I have had the opportunity to ask questions about the project.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. Please contact Jackie Salter edujsal@leeds.ac.uk	
I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. My contributions and suggestions regarding the project will be anonymised. I understand that my responses will be kept strictly confidential	
I agree for the data collected from me to be used in relevant future research.	
I agree to take part in the above research project and will inform the researcher consultancy group coordinator should my contact details change.	

Name of participant	
Participant's signature	
Date	
Name of research consultancy group coordinator Jackie Salter	
Signature	
Date*	

*To be signed and dated in the presence of the participant.

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/ pre-written script/ information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be kept with the project's main documents which must be kept in a secure location H

Appendix K Samples of the Analytical Process

K.1 Sample of coded data from F1

FGD1 TALKING ABOUT LEARNING							
			dialogue	L	Co de	Rationale for coding	Reflections
N	3	0.57	<p><u>To see they have understood the instructions, they know the lesson objectives.</u> What they need to do repeat the instructions for them</p> <p>checking that the teacher is wearing the radio aid and they can hear the teacher and in the group work. The radio aid goes to the group. Things like that</p>	L	EI S	<p>Understanding instructions. Understanding lesson objectives.</p> <p>Checking correct audiological management</p>	
S	4	2.01	<p>I work as I say, now, though not so much in class support, but the 1-1 so I have two pupils weekly which is <u>pre-and post-tutoring that brings up difficulties because how many teachers do lesson plans so how do we know what's going on</u> so that's the big difficulty that we have. So the lads have a notebook that they're supposed to write in <u>if they are struggling with certain topics</u>, so I can pick up with them. Otherwise it's just trying to pick up in the week. <u>What they have understood what they haven't understood</u> and to try and get links with the teachers to try and find out what</p>	L	W II	<p>Little time now spent in class. One-to-one support the two boys pre-and post-tutoring, although this is hindered by difficulties getting hold of planning and knowing what has been covered in class.</p>	

			they're going to be doing next				
Z	55		Another thing we use here well not everyone uses it because we only got a few of them is a roving mike I'm not sure if you use that if the teacher is wearing a transmitter or a TA then. Basically we have a mike that is passed around so pupils are contributing <u>the H I pupils do not miss out on what's being said so that's also very beneficial</u>	L	S E C	Audiological equipment to facilitate the interaction Being able to access the lesson content	
S	56	8.41	So have the school purchased those or is it something that the teacher of the deaf has provided				
Z	57		I think we were given one originally by the teacher of the deaf but the school did purchase a couple, but like I said we don't use those in every classroom. It's only when we need to				
S	58		So the group activities and things like that. It works really well does it?				
Z	59		It does				
N	60		And the debates in geography				

K.2 Sample of Notebook page during thematic analysis of coded data

CONTENT SUMMARY

15 April 2014
16:32

IN RELATION TO THE PUPIL

Cognitive ability has an impact on outcomes
Meta awareness of their own understanding.- pupils frequently expected to know when they have not understood something
influence of previous learning
Prior knowledge of lesson content would support learning

They all learn differently.
Joint attention

Memory/retention.
Gaps in their content knowledge
Processing time

Cognitive overload and tiredness

Language

Keywords

Vocabulary

Gaps in vocabulary.
Literacy is a specific problem.
The importance of context for understanding language
Importance of language for learning

Things that often happen

- Black- talking about learning
- *Red challenges and issues*
- *Bold or Bold comments that feature regularly in the discussions*
- *Interesting and insightful comments
- *Not sure if they come under another heading*

IN RELATION TO THE TA

Understanding

Following instructions.

Being on track.

Following the method.

Understanding learning objectives

Rote learning facts/method etc are things remembered at a later date

Building content knowledge (increasing difficulty).
Importance of completing a task independently.
Skills for learning in lesson are not always there.

SUPPORTING DEAF LEARNERS

*deaf pupils need to be able to make mistakes

*Learning needs to be linked to everyday situations.

Pupils need to be able to concentrate.

Importance of understanding and knowing the pupil well in order to be able to:

- Anticipates where misunderstandings will/have occurred.
- Understand the pupils cognitive strengths and how they learn
- To be able to differentiate the material.
- To be able to fill in the gaps in their knowledge.
- Provide visual reinforcement

K.3 Sample of note book page during thematic analysis of data coded as Incentive

Summary Data RQ1 RQ2 RQ3 Post Readings Research Diary Quantitative Methods Notes from Books Reading Lists Glossary Meeting Ideas

THEMES I Incentive

05 May 2014
15:09

CONFIDENCE

Confidence	1,1
Teachers relationship with pupils is important for confidence	
Confidence to do with pupils and teachers	3, 5
Self-esteem	1
Importance of relationships to build confidence	

RELATIONSHIPS

Willingness to ask teachers	
Mutual respect required	
Pushing pupil may make them agitated	
Allowing the pupil to take the lead on their own support	2
Importance of relationships to build confidence	R
Teaching assistant is more approachable than teachers	

PHYSICAL IMPACT

FGD1
INTERVIEW 1
FGD2
INTERVIEW 2
FGD3

INDEPENDENCE

Independence for learning	1
independence	2

ATTITUDES

Attitude to maths	
Attitude to audiological equipment	
Pupils want to be normal	
Attitudes and internal adjustment to use of audiological equipment	
motivation	3, 1
Motivation to learn	

LEARNING SKILLS

Use of imagination and interpretation is an internal task	
---	--

CONCENTRATION

Concentration they require small manageable chunks	
Increased level of concentration required by the deaf pupil	

K.4 Samples of workbooks developing second order themes

INTERNAL COMMUNICATION STAGE 1

CONTENT

INCENTIVE

SOCIAL (CLASSROOM) SITUATION

Interaction is a two-way process. You need to build a bond / relationship to ensure effective interaction 1.3

Subject matter required

Importance of the ease of communication

Access to the lesson content (pupil will seek out the easiest person to communicate with) 1.2

Being able to engage in lesson interaction

Encouragement of communication strategies in statements

Physical management to ensure effective communication e.g. repeating contributions

May need a range of communication strategies

Effective use of equipment

Autological management of equipment 2

STAGE 2

Preparation of topic improves access to communication

The use of discussion is a tool to check understanding

Strategies to support vocab development

Use of questioning

Understanding and managing communication needs e.g. processing 1

Management group discussions

Management of audiological equipment 2

Management of pupil's learning environment 1.3

Peer interactions distractions 1.3

STAGE 3

Pre-calling leads to confidence may improve interaction

Hearing instructions

Mixing verbal information

Pupils will understand the better because of new communication strategies

Teaching assistant is more approachable

Copying from peers

Pupil devise strategies to gain missing information

The importance of interaction with the teacher directly

Acoustic environment and noise management

Encouraging teachers to think about communication

Positioning of the pupil

Encouraging group participation

Encouraging participation

Group discussions and team work

Strategies to encourage peer interaction

WIDER SOCIETAL SITUATION

Communication

Importance of audiological equipment to facilitate communication 1

The importance of group (peer) interaction 2

Pupil understanding the expected norms of communication within the school environment

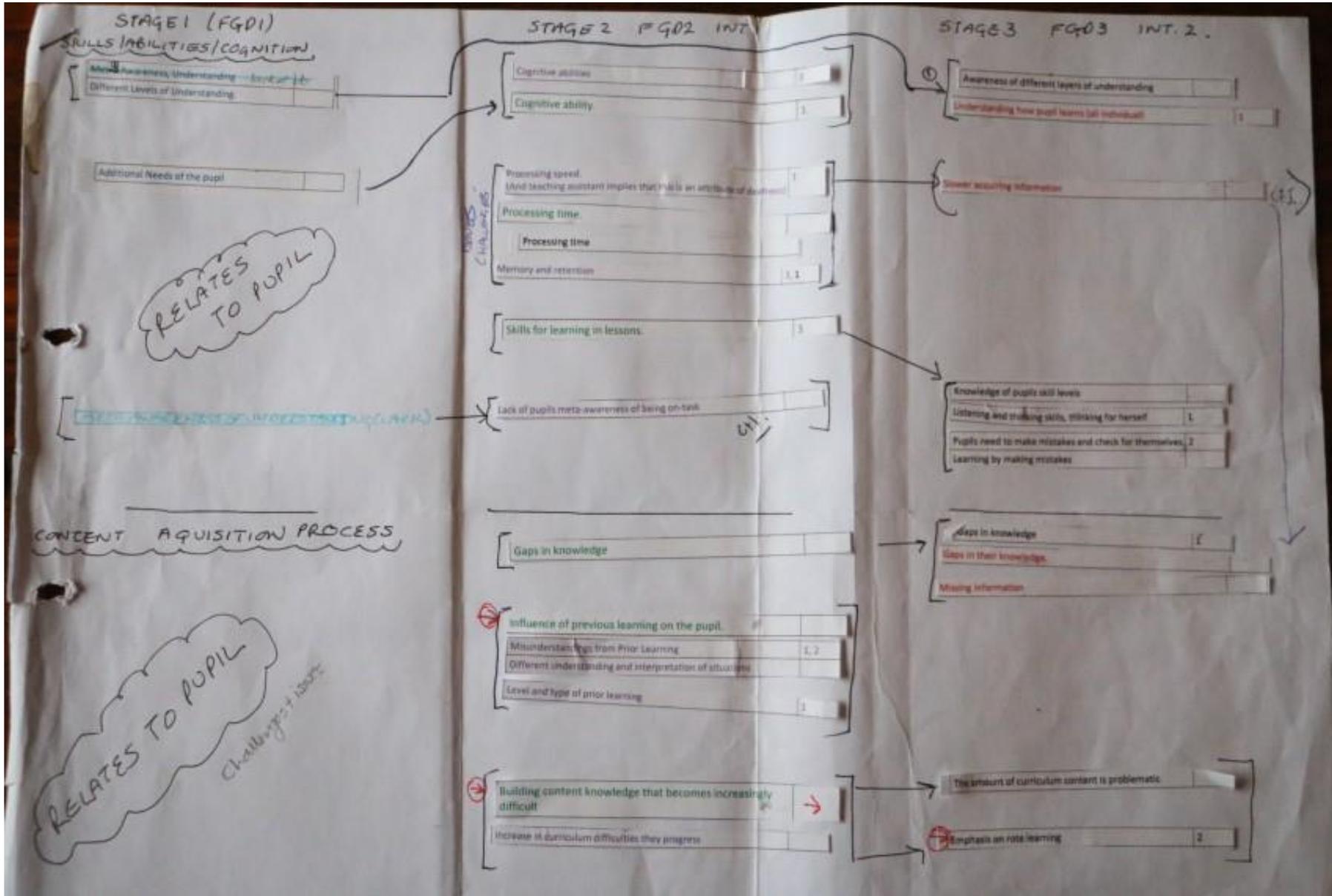
The impact of the social environment is key to engagement

Recognising the importance of student status within the classroom

Integration of behaviours e.g. shouting is seen to be disruptive

The teacher assumes everyone can understand her

Recognition of the number of reasons pupil may not respond to a question



REPORTING KNOWLEDGE ACQUISITION

STAGE 1

RELATES TO THE TA ROLE

STAGE 2 (relates to the TA role)

Pre and post-tutoring	1
Benefits of post tutoring and recapping	1
Benefits of preparation for the lesson	1
Differentiation described as simplification	1
Differentiation is equivalent simplification	1
Simplification leads to better understanding	1

STAGE 3

Pre and post tutoring	1
What reinforcement important for understanding	1
Importance of LO how can they learn without them?	1
Differentiation	1
Support to support knowledge acquisition	1
Pupils ability will determine the type of support (iii)	1
Make them understand	1
Checking scaffolding a task for a learner	1
Linking learning to everyday situations	1
Encouraging inference	1
Open questioning	1

* Mediated learning through copying peers

CHECKING UNDERSTANDING

RELATES TO TA ROLE

Understanding instructions	1
Understanding LO	1

In 1.

Checking understanding through questioning instructions/on task	1, 1
Task completion important pupil	1, 2
Learning objectives	1
Following methods in maths to demonstrate understanding	1
Different approaches for different pupils	1

Independent completion of tasks
 ← questioning
 Following back - on task
 Follow methods in maths
 On task / following questions
 [diff approaches for diff pupils]

In 2.

Independent completion of work demonstrates understanding	1
Method following in mathematics	2
Maintains issues remembering and following method correctly	1
Use of questioning to check understanding/attention in lesson or at a later date (next lesson, break time)	1
Checking pupils have independently completed work following the task	1
Asking pupils to repeat what teacher has said	1
Checking can understand and follow instructions	1

[Repeat instructions]