

**Language Attitudes and Code-switching Behaviour in a
Multilingual Educational Context: The Case of
Luxembourg**

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Abstract

This thesis is a sociolinguistic investigation of language attitudes and code-switching behaviour in Luxembourg's multilingual education system. Through a large-scale questionnaire study of language attitudes and an ethnographic study of attitudes and multilingual classroom behaviour, this study aims to examine the role of socio-psychological, socio-political and socio-pragmatic factors in the production of language. Furthermore, the research attempts to provide empirical information concerning language attitudes and multilingual classroom behaviour that can be directly applied to future language in education policies in Luxembourg.

A link between language attitudes and language behaviour is statistically established in both the large-scale questionnaire study and the ethnographic investigation of classroom code-switching. However, attitudes emerge as only one of many factors that influence language choice in multilingual contexts. The pragmatic analysis of code-switching reveals that language choice inside the classroom is heavily influenced by the context in which it appears as students and teachers code-switch in order to achieve various context-bound goals such as clarifying curriculum content and/or managing classroom discourse and interpersonal relationships. Further analyses suggest that Luxembourg's current language in education policies have largely negative impacts on educational attainment among secondary school students. Various options for future policy reform in Luxembourg are discussed in order to demonstrate how findings from applied sociolinguistic research can be directly applied to policy development. From a theoretical perspective, this thesis contributes to a growing body of research highlighting the benefits of concurrent approaches to multilingual education. In addition, further light is thrown onto the complex relationship between attitudes and behaviour. Due to its interdisciplinary nature, this thesis also introduces various methodological innovations.

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Author's declaration

The work presented in this thesis (unless cited) is solely that of the author. Parts of the analyses presented in sections 4.2, 4.3, 5.2, 6.2 and 6.3 have been presented at conferences in the United Kingdom and abroad. Some of the material discussed in sections 2.2 and 7.4.3 is included in an article ('Language Planning and Policy on Linguistic Boundaries: the case of Luxembourgish') written by the author and accepted for publication in a volume of the *Publications of the Forum for Research on the Languages of Scotland and Ulster*.

1 Introduction

1.1 Introduction

This thesis is a sociolinguistic investigation of language attitudes and code-switching behaviour in Luxembourg's multilingual education system. The language situation in Luxembourg has been described as 'triglossic' (Horner & Weber, 2008: 70) with regard to the country's official recognition of Luxembourgish, French and German. As a consequence of Luxembourg's official multilingualism, its language in education policies are highly multilingual. Thirty to 40 percent of school lessons are dedicated to language teaching. Students and teachers are also faced with the use of multiple languages of instruction. German and French are officially employed as languages of instruction at different stages in the curriculum. In addition, Luxembourgish is frequently used as an unofficial medium of communication inside the classroom. By focusing on the role of socio-psychological factors in the production of language in a multilingual educational context, this study bridges several strands of sociolinguistics such as language attitude, code-switching and language planning and policy research. Qualitative and quantitative methods are combined in order to throw light onto the ways in which these subfields of sociolinguistics are interconnected and to demonstrate that the success of language in education policies can be heavily dependent on applied research investigating socio-psychological and socio-political aspects of multilingual language production. Findings from a large-scale questionnaire study focusing on secondary school students' language attitudes provide insights into various socio-psychological factors that shape language use and language policies in Luxembourg. This is complemented with an ethnographic study of students' and teachers' actual language behaviour inside the classroom.

The aims of this thesis are two-fold: (1) to further our theoretical understanding of the role of socio-psychological (i.e. language attitudes) and socio-political (i.e. language policies) factors in the production of language and (2) to gather

empirical information regarding language use and language attitudes in Luxembourg's education system that can be directly applied to future language in education policies. Baker (1992: 37) draws attention to the fact that much attitude research carried out in multilingual educational contexts fails to investigate the realities of the classroom in sufficient detail. The investigation of the connection between students' and teachers' language attitudes and their linguistic practices, therefore, plays a key role in the various analyses presented in this thesis.

In addition to providing new insights into the relationship between language attitudes, language production and language policies, this study contributes to a growing body of sociolinguistic research concerned with multilingualism in Luxembourg. Fehlen (2002: 81) claims that academic research focusing on Luxembourg's linguistic situation is 'still in embryo' and attributes this lack of research to the absence of a university in Luxembourg until 2003. Attitudes towards the various languages in Luxembourg have so far not been discussed in detail in the sociolinguistic literature focusing on multilingualism in Luxembourg (Horner & Weber, 2008: 84). In addition, Horner and Weber (2008: 81) argue that there is a lack of ethnographic studies investigating multilingual language behaviour.

Patterns of language use in Luxembourg's education system have recently attracted the attention of the country's Ministry of Education. In an evaluation of Luxembourg's education system in 2006, the Council of Europe claimed that the current system is unable to satisfy the needs of the population as a whole and that educational attainment is heavily affected by the students' mastery of the various languages of instruction (i.e. German and French) (Council of Europe, 2006: 17). This is perhaps reflected in the extremely low pass rates in Luxembourg's education system – only 16.7 percent of young people successfully obtained the secondary school leaving diploma in 2005 (Horner & Weber, 2008: 88). As a result, the Luxembourg Ministry of Education is currently undertaking a reform of its language in education policies and this study aims to provide an empirical

description of language attitudes and language behaviour that could be directly applied to future policy development in Luxembourg.

In many ways Luxembourg is unlike all other linguistic contexts in Europe. While the majority of the indigenous population speak Luxembourgish as their native language, French and German continue to dominate the administrative, legislative and educational domains. This thesis investigates the tensions that exist between Luxembourgish, French and German with particular reference to language in education policies. In Europe tensions between regional and internationally powerful languages are not limited to Luxembourg, as can be seen in contexts such as Scotland (Gaelic vs. English), Wales (Welsh vs. English), Catalonia (Catalan vs. Spanish) and the Basque Country (Euskera vs. Spanish). While Luxembourg's sociolinguistic situation bears similarities with these European contexts it must be noted that unlike Gaelic, Welsh, Catalan and Euskera, Luxembourgish is not a minority language in its own territory, as it is widely spoken by Luxembourg's residents. The empirical analysis of language attitudes and language behaviour in Luxembourg's secondary schools presented in this thesis will be complemented by a critical evaluation of Luxembourg's language in education policies through a cross-linguistic European lens (with particular reference to the abovementioned countries).

1.2 Research questions

While this thesis draws on methods from several research fields and reports findings from both a questionnaire-based and an ethnographic study, it is characterised by an overarching attempt to gain an understanding of the various factors which influence language use in Luxembourg's multilingual education system. To address this objective, this study is motivated by several research questions. These questions and the reasoning behind them are listed below.

- (1) To what extent are Luxembourg's secondary school students multilingual?

In order to establish a linguistic profile of Luxembourg's secondary school students, the analysis presented in this thesis will provide a quantification of students' self-reported language use inside the classroom as well as at home and with friends and/or peers. Due to the relative lack of research concerning Luxembourg's linguistic situation, this quantitative evidence is necessary to gain an understanding of the spread of multilingualism in Luxembourg. This information will also be used in order to evaluate language contact phenomena in Luxembourg in comparison with other European contexts where tensions between regional and internationally powerful languages exist. A second research question to be addressed in this thesis is:

- (2) What are students' attitudes towards the various languages used in Luxembourg?

As noted above, language attitudes are largely under-researched in Luxembourg and this thesis, therefore, aims to provide a comprehensive overview of students' attitudes towards the various languages employed in Luxembourg's education system. According to Baker (1992: 9) policy makers can substantially increase the likelihood of successfully implementing their language policies if they are fully aware of the language attitudes of the target population. An investigation of students' language attitudes will, therefore, not only allow for insights to be gained into the perceived status of the various languages used in Luxembourg but will also provide empirical information which can be directly applied to future language in education policies. As this thesis investigates language attitudes not only in relation to language policies but also in relation to speakers' language production, the following question also shapes the research presented in this thesis:

- (3) Are language attitudes related to language behaviour?

Attitudes are often studied due to a belief that they can be at the origin of behaviour (Bohner, 2001: 270). In this thesis, the relationship between attitudes and behaviour will be assessed from both theoretical and applied perspectives. Particular attention will be paid to the question of whether students' holding positive attitudes towards the official medium of instruction in a given lesson employ this particular language more extensively than their peers who express negative attitudes. Other factors that may shape students' language behaviour will be investigated through the following research question.

- (4) Is students' language behaviour inside the classroom affected by their perceived competence in the official medium of instruction?

Given that the majority of students sampled for the purposes of this study have acquired the official media of instruction (i.e. French and German) as second languages, the analysis will also investigate whether their language behaviour is affected by their self-assessed language competence in the medium of instruction of a given lesson. A further research question to be addressed in this thesis is:

- (5) To what extent do students and teachers adhere to Luxembourg's official medium of instruction policies?

In an attempt to gain an understanding of the degree to which current language policies are adhered to in daily classroom interactions, this study will quantitatively establish the degree to which students and teachers communicate in the official medium of instruction. This analysis will also reveal to what extent Luxembourgish features in classroom discourse despite its official exclusion from most areas of secondary education in Luxembourg. Students' and teachers' motivations for the use of Luxembourgish will be investigated through the following research question:

(6) What functions are fulfilled by student-initiated and teacher-initiated classroom code-switching?

Research carried out in a vast array of contexts has established classroom code-switching as a communicative asset as it fulfils numerous pragmatic functions (Ferguson, 2003: 38). The pragmatic analysis of student-initiated and teacher-initiated code-switching presented in this thesis attempts to reveal to what extent classroom code-switching functions as a learning and teaching strategy and to what extent it fulfils functions related to the management of classroom discourse and interpersonal relationships. Given the discrepancies that exist between Luxembourg's stringent medium of instruction policies prescribing the sole use of either French or German and the extensive use of classroom code-switching (documented in this study), the following research question attempts to critically evaluate Luxembourg's current language in education policies.

(7) Do the official medium of instruction policies have an impact on educational achievements in Luxembourg?

In light of the negative educational outcomes raised in connection with Luxembourg's education system, this thesis aims to investigate whether the official imposition of the use of French and/or German as media of instruction has an impact on secondary school students' educational achievements. The analysis will take into account both the sampled students' degree of participation during classroom interactions as well as provide a longitudinal overview of their academic grades in subjects taught in both French and German.

1.3 Structure of the thesis

This thesis is organised as follows. Chapter 2 provides a review of the relevant literature and sets both the geographical and theoretical contexts for a study of language attitudes and code-switching behaviour in Luxembourg's multilingual

education system. A historical overview of Luxembourg's linguistic situation outlines the various factors that led to the country's official recognition of Luxembourgish, French and German. Particular attention is paid to the various processes that contributed to the formation of Luxembourgish as the country's national language. Subsequently, language in education policies are examined in detail in order to demonstrate that despite a clear emphasis on multilingualism by the Luxembourg Ministry of Education, Luxembourgish, the country's national language, remains excluded from virtually all areas of education. The remainder of this chapter is dedicated to a review of the theoretical underpinnings of three areas of sociolinguistics that directly shape this research: (1) socio-psychological aspects (i.e. language attitudes), (2) multilingual behavioural aspects (i.e. code-switching), (3) educational and political aspects.

Chapter 3 provides a detailed description of the methods used in this study. Following a review of the theoretical foundations of attitude measurement, the magnitude continuum is introduced as an innovative tool for the measurement of language attitudes. The rationale for the design of this new attitude measurement tool is discussed and appropriate statistical methods for the analysis of the attitudinal data are introduced. The data collection methods for both the attitude and language behaviour studies are fully set out. The sampling procedures are outlined and the chapter closes with a discussion of the methods employed for the analysis of audio-recorded multilingual classroom interactions. Various challenges involved in recording, transcribing and analysing a large corpus of multilingual speech data are addressed.

Chapters 4 to 6 provide detailed analyses of language attitudes and of patterns of language choice and code-switching among students and teachers in Luxembourg. Following a short introduction, each chapter sets out specific research questions to which answers will be provided (as far as possible) throughout the course of the chapters. Chapter 4 reports findings from both the large-scale questionnaire study of attitudes towards the various languages used in Luxembourg's schools and the

small-scale experimental study of attitudes towards French and Luxembourgish (i.e. Implicit Association Test). This chapter first presents a linguistic profile of the students sampled for the purposes of the questionnaire study and then outlines the findings from the statistical analysis of students' questionnaire responses. Attitudes towards French and Luxembourgish as well towards various aspects of language use in the education system are examined. The chapter closes with an analysis of the data collected in an experimental time-reaction experiment focusing on attitudes towards Luxembourgish and French (i.e. Implicit Association Test).

Chapter 5 examines teachers' multilingual language behaviour during classroom interactions. Firstly, different levels of tolerance towards classroom code-switching are identified among the teachers sampled for the ethnographic study. Subsequently, various pragmatic functions of teacher-initiated code-switching are qualitatively analysed and exemplified with extensive data extracts. The pragmatic analysis is based on Ferguson's (2003: 39) three-fold model of classroom code-switching whereby the multitude of functions fulfilled by language alternation can be collapsed into three broad functions: code-switching for curriculum access, code-switching for management of classroom discourse and code-switching for interpersonal relations. Following this qualitative analysis of classroom code-switching, this chapter will turn towards a quantification of the various functions fulfilled by teachers' code-switching behaviour. It is argued that teachers showing different levels of tolerance towards classroom code-switching largely switch for different functions.

Once the multilingual language behaviour of teachers has been described in detail, this thesis turns towards an analysis of students' multilingual language practices in chapter 6. This chapter presents data from the longitudinal ethnographic study of naturally-occurring classroom interactions of a group of 21 students. Patterns of language choice inside the classroom are statistically analysed for students who hold positive and negative attitudes towards French (i.e. the official medium of

instruction) and who display varying levels of self-assessed French language competence. The analysis reveals several factors that significantly influence students' language choice. These findings are related to students' varying degrees of participation in classroom activities and their educational achievements. In order to gain insights into the reasons underlying students' use of multiple languages in classroom interactions, a qualitative and quantitative analysis of the functions fulfilled by students' classroom code-switching is presented. The chapter closes with a discussion of the findings from a multilingual map task, an experimental data collection tool aiming to trigger code-switching under controlled conditions.

Chapter 7 relates the empirical findings of this thesis to issues of language planning and language policy. Various theoretical and applied implications of the research findings are discussed. The significance of the findings of this study for our understanding of the relationship between attitudes and behaviour is examined. In addition, new light is thrown onto the role of socio-psychological and socio-pragmatic factors in multilingual education models. Following this theoretical discussion, the chapter critically evaluates Luxembourg's current language in education policies in relation to other European contexts where tensions exist between regional and internationally powerful languages. Due to the applied angle of this study, the thesis also outlines several direct applications of the research findings for language in education policies in Luxembourg. Attention is called to the complex nature of multilingualism in Luxembourg and the consequences of the use of French as a medium of instruction in Luxembourg's schools are critically discussed. Several options for language in education policy reform are evaluated.

The thesis closes with a set of final conclusions highlighting the ways in which this study has furthered our theoretical understanding of the role of socio-psychological, socio-political and socio-pragmatic factors in the production of language in a multilingual educational context (Chapter 8). Attention is drawn to

the importance of carrying out interdisciplinary research in contexts where language use is influenced by a myriad of factors. Some directions for future research are provided.

2 Literature review

2.1 Overview

As a study of language attitudes and language behaviour among secondary school students and teachers in Luxembourg, this thesis relates to a number of different research fields, including sociolinguistics, social psychology, multilingualism, conversation analysis, education and language planning and language policy (LPLP). This chapter will first provide a historical and sociolinguistic overview of Luxembourg's multilingual situation with a particular focus on the various factors that played a role in the formation of Luxembourgish as the country's national language (2.2). Once the geographical and sociolinguistic contexts have been set, various theoretical underpinnings of the abovementioned research fields will be discussed in detail. Relevant attitude literature from both social psychology and sociolinguistics will be reviewed and particular attention will be drawn to the complex relationship that exists between attitudes and behaviour (2.3). To address the role of socio-psychological factors in the production of language, this chapter will subsequently turn towards a discussion of various theoretical frameworks which have been applied to the analysis of multilingual talk in interaction (2.4). This discussion of general frameworks for the analysis of code-switching data will be complemented with a review of recent studies investigating code-switching in educational settings (2.4.7). The chapter will close with an overview of bilingual education models and a discussion of the theoretical foundations of language planning and policy activities (2.5).

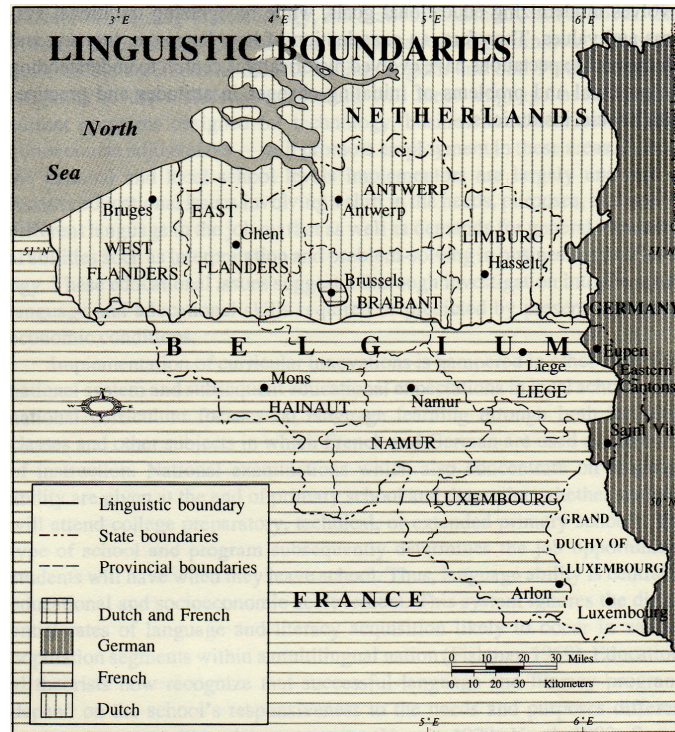
2.2 Setting the context: historical and sociolinguistic overview of multilingualism in Luxembourg

2.2.1 Introduction

Language contact between regional and immigrant languages is widespread in Luxembourg. The official recognition of Luxembourgish, French and German is accompanied by the presence of various immigrant languages as well as an increasing use of English as a language of communication among Luxembourg's growing international workforce. Societal multilingualism in Luxembourg can be attributed to both the country's geographical location and various political and demographic changes since its foundation in the tenth century. Different waves of immigration primarily from Italy and Portugal throughout the twentieth century have contributed to the spread of multilingualism, but language contact in Luxembourg is also closely related to its geographical situation.

The country is located on the linguistic border between a Romance and Germanic language area in Western Europe and shares political borders with France, Germany and the French-speaking part of Belgium (Map 2.1). Due to Luxembourg's borderland location, its indigenous variety, Luxembourgish, has originated from contact between Germanic and Romance varieties or, in other words, contact between the ends of two dialect continua. Contact dialects of this kind exist all over the world in places where different dialect continua come into contact with each other. The case of Luxembourgish is in many ways an unusual example as the Luxembourg government officially recognised the West-Moselle Franconian dialect, spoken by the vast majority of the indigenous population, as Luxembourgish, the country's national language, by passing its first language law in 1984. Alongside Luxembourgish, French and German benefit from official recognition. As a West-Moselle Franconian language variety, Luxembourgish bears similarities with German varieties spoken east of the Moselle. However, mutual intelligibility between Luxembourgish and High German is low, and

Newton (1996: 54) claims that the majority of children in Luxembourg are unable to understand German before formal schooling.



Map 2.1: Luxembourg's linguistic and geographical boundaries (adapted from Davis, 1994)

A discussion of the various historical and sociolinguistic developments which led to the explicit language policy in 1984 can throw light onto the complex mechanisms underlying the rise in status of a contact dialect to that of a national language. Despite its official recognition, Luxembourgish continues to play a marginal role in the education system and the reasons underlying this lack of support will be investigated in relation to past and present trends in Luxembourg's language planning and policy activities. Firstly, the wording of the language law will be analysed to illustrate the continuing tensions between Luxembourgish, French and German. The emergence of Luxembourgish as a language of identity will then be described diachronically and will be followed by a discussion of the current status and use of Luxembourgish in education.

2.2.2 The formation of a national language

Luxembourg's language law was ratified on 24 February 1984, officially establishing Luxembourgish as the country's national language (Article 1). French was awarded the status of legislative language (Article 2) and all administrative matters were to be carried out in French, German or Luxembourgish (Article 3). Finally, the policy states that in written correspondence administrative bodies should 'as far as possible' reply in the language that was chosen by the correspondent (Article 4). A brief analysis of the wording of the language law can provide insights into the intentions of the policy makers. Berg (1993) draws attention to the government's choice of terminology when drafting the language law as Luxembourgish receives the status of 'national' language without further information as to what this label entails. Moreover, the rise of Luxembourgish to an administrative language in Article 3 is qualified in the following article through the phrase 'as far as possible'. This exit clause enables administrative bodies to ignore a correspondent's choice of language and, therefore, risks weakening the effect of the language law in the administrative domain. In fact, Luxembourg's administration continues to write almost exclusively in French despite the changes imposed by the law in 1984 (Fehlen, 2002: 83). The vague nature of the language law suggests that despite its considerable rise in status, Luxembourgish remains in a competitive relationship with French and German. A diachronic discussion of the formation of Luxembourgish as a national language can provide an explanation for Luxembourg's current linguistic situation as well as the nature of its language policies.

The origins of Luxembourg date back to 963 AD when Count Sigfried, a noble of Upper Lotharingia, acquired the castle 'Lucilinburhuc' from the Abbot of St Maximin and founded the independent feudal state of Luxembourg. Count Sigfried's Luxembourg was located in the area of the old Carolingian empire which was divided by a language border into two separate parts, named 'Germania' and 'Romania' (Hoffmann, 1980). Consequently, both Germanic and

Romance varieties were spoken in the early Luxembourg, and the tensions between a Germanic East and Romance West go back as far as the first centuries AD when Celtic Treveri, Romans and increasing numbers of Germanic-speaking Rhine-Franks were living side by side in the area which later became Luxembourg (Hoffmann, 1980). Throughout the twelfth century Luxembourg's territory increased, the counts started to 'acquire French habits, tastes, and language' (Gade, 1951:80, cited in Davis, 1994: 26) and French gradually became the language of the nobility and the official language of the state. The linguistic prestige of French continued to grow and by the end of the fifteenth century French had replaced Latin in the writings of the clergy as well as strengthened its position as the language of the upper classes and the emerging middle classes of merchants who extensively used French alongside German as a trading language. On the other hand, the peasants and serfs who represented nine tenths of the population exclusively spoke the local Germanic dialect as they had no use for either French or German (Davis, 1994: 27). During the following four centuries Luxembourg changed hands several times and belonged to Austria, Spain, France and the Netherlands. These various periods of foreign rule had an influence on the size and shape of Luxembourg as parts of the original territory came under Belgian, German and French possession. In 1839, the Treaty of London finally established Luxembourg's present day borders and Luxembourg became an independent state.

Political independence was accompanied by a newly-gained self-confidence in the Luxembourg people who started to associate their local dialect with a Luxembourg identity and used their native tongue as a differentiating characteristic from the larger neighbouring countries (Gilles & Moulin, 2003: 304). Hoffmann (1980) establishes 1848 and 1896 as key dates contributing to the emergence of Luxembourgish as a language of identity. In 1848, Luxembourgish first appeared in the domain of politics in the parliamentary speeches by Carl Matthias André and Norbert Metz (Hoffmann, 1980; Newton, 1996). In 1896, the first ever introductory speech in parliament was carried out in Luxembourgish by

Caspar Matthias Spoo who suggested the use of Luxembourgish as the language of communication in Luxembourg's parliament. Spoo's proposition was not positively received by the majority of the parliament but in 1912 he managed to introduce Luxembourgish as a compulsory school subject in primary schools.

The second world war marks a challenging and controversial period for the linguistic composition of Luxembourg as the country was invaded and occupied by Nazi Germany. Strong anti-German feelings were prevalent among Luxembourg's population who were treated as ethnically and linguistically German by the Nazi occupiers. Various resistance groups formed in reaction to the invasion and they finally united forces in 1944. The resistance groups used the Luxembourgish language as a marker of Luxembourgish identity (Wagner & Davies, 2009: 118). During a census on nationality and language carried out by the German occupiers in 1941, the vast majority of the population refused to be labelled as ethnically and linguistically German. In responses to three questions regarding, (a) current nationality, (b) mother tongue, (c) ethnicity, over 96% of voters answered with 'Luxembourgish' despite explicit instructions by the Germans that 'Luxembourgish' constituted an invalid answer (Newton, 1996: 188). The outcome of this census was influenced by the Luxembourg resistance movement who had urged the population to regard Luxembourgish as their sole mother tongue (Wagner & Davies, 2009: 117). Consequently, Luxembourgish became a crucial tool for the strengthening of the Luxembourgish identity during World War II which has often been regarded as a pivotal period in the development of Luxembourgish as a national language (Hoffmann 1996; Berg, 1993).

In a study of letter writing practices during World War II, Wagner and Davies (2009) show that Luxembourgish fulfilled affective functions, acted as the language of closeness and home and served as a mode of expression for personal emotions. However, for the letter writers in their corpus the affective value of Luxembourgish was not necessarily linked with a desire to establish Luxembourgish politically as the country's national language (Wagner & Davies,

2009). This finding is strengthened by the apparent lack of explicit language policy activities in the immediate aftermath of the war. However, Luxembourgish gained new ground by replacing German as a medium of communication in parliamentary debates from 1945 onwards. The initial inclusion of Luxembourgish in the primary school curriculum in 1912 was extended to the first two years of secondary schools in the aftermath of World War II. The teaching of Luxembourgish using the 'Margue-Feltes' orthography in secondary schools marked a hopeful development. The orthography had no resemblance with the German or French spelling systems and was therefore impractical from an educational perspective as German remained the language of alphabetisation and the teaching of Luxembourgish continued to be marginalised (Gilles & Moulin, 2003: 316). Support for the 'Margue-Feltes' spelling system faltered in the 1950s and Luxembourgish language classes were increasingly dedicated to the study of German (Newton, 1996: 191). Moreover, street signs were changed back from German to French as opposed to Luxembourgish at the end of the war. This lack of support for Luxembourgish weakens the claims made about the crucial role of World War II in the development of Luxembourgish as a national language.

Horner and Weber (2008) argue that the official recognition of Luxembourgish as the country's national language in 1984 cannot be directly connected to the historical events surrounding World War II and they attribute greater importance to the social and demographic developments of the 1970s. Heavy immigration, in particular, transformed the make-up of Luxembourg's society and inevitably had an impact on patterns of language use. The 1984 language policy must be regarded as the government's reaction to a number of perceived external and internal threats to cultural cohesion (Davis, 1994: 10). Repeated claims by German politicians and journalists just prior to the language law that Luxembourgish was a dialect of German and that Luxembourgers were ethnically German acted as an external threat (Davis, 1994: 11). This threat was perceived as being closely related to the developments of the second world war and the

resulting connection between Luxembourgish and a Luxembourgish identity. The threats posed by the German culture and language and the historical events of the second world war acted in conjunction with the internal threats from the high influx of migrants (Davis, 1994: 11). In reaction to the steel crisis of the 1970s, Luxembourg shifted towards a more service-oriented and white-collar economy. Increasing numbers of foreigners were recruited by Luxembourg's growing financial sector and by the numerous institutions of the European Union based in Luxembourg. Due to a rise in the standard of living and a subsequent demand in housing and road construction (Davis, 1994: 10), numerous building companies started to employ Portuguese immigrants as manual labourers on building sites (Hoffmann, 1996: 99). Immigration from Portugal began in the 1960s and 1970s following a peak in immigration from Italy, whose origins date back to the industrial development in the nineteenth century. Portuguese immigrants have continued to arrive in Luxembourg and they currently represent the largest immigrant group with over 76,000 members, followed by French (26,000) and Italian (19,000) immigrants (Statec, 2008: 5). In 2008, Luxembourg's total population amounted to 483,000 inhabitants (Statec, 2008: 5).

The social and demographic developments of the 1970s coincided with the creation of 'Actioun Lëtzebuergesch', a non-profit organisation and pressure group who in their constitution claim that 'the purpose of the Association is to speak for everything which is Luxembourgish, especially the language' (Newton, 1996: 192). Lobbying efforts of 'Actioun Lëtzebuergesch', such as support for the appearance of Luxembourgish on street signs, bank notes and stamps, contributed to the creation of Luxembourg's first language law. The language law was finally ratified on 24 February 1984.

The historical overview of the sociolinguistic developments in Luxembourg has shown that the formation of Luxembourgish as a language of identity has been an extremely slow and complex process which has extended over hundreds of years and the language policy of 1984 cannot be attributed to a single historical event

such as the invasion and occupation of Luxembourg in World War II. The language contact situation in Luxembourg constitutes a rich context for the investigation of possible outcomes and consequences of language planning and policy decisions from the perspectives of both policy makers and language users. The lack of unequivocal support for Luxembourgish, as previously discussed in the analysis of the wording of the 1984 policy, is also reflected in the failure of the policy makers to strengthen the impact of the law by providing accompanying measures to change patterns of language use or concrete plans to produce teaching materials, dictionaries or grammars of Luxembourgish (Gilles & Moulin, 2003: 309). While various dictionaries have been published both in print and online, the education system still relies heavily on teaching and learning materials from neighbouring countries. By officially recognising Luxembourg's contact variety as a national language, the Luxembourg authorities emerge as a rare and positive exception in comparison to many other countries and states where largely spoken contact varieties are excluded from official language policies. However, Luxembourg's language law was not accompanied by an increase in status and use of Luxembourgish in the education system. A close analysis of the stance of the authorities can provide an explanation for the continuing marginalisation of Luxembourgish in the educational domain.

2.2.3 Luxembourg's language in education policies

Languages play a major role in Luxembourg's education system both in the form of taught school subjects and media of instruction. 35 to 40 percent of school lessons are dedicated to language teaching at primary and secondary school level. German and French are compulsory languages throughout schooling. English is introduced as a foreign language at secondary school level where students can also opt to study Latin, Italian and Spanish. German and French are employed as languages of instruction at different levels in the curriculum. German is the language of alphabetisation and is mostly employed as a medium of instruction throughout primary education and the first years of secondary schooling (Council

of Europe, 2006: 16). French largely replaces German as the medium of instruction in the latter years of secondary education. The change of the language of instruction has been attributed to an attempt by the authorities to provide students with a balanced competence in German and French, thus enabling them to complete their higher education at either German-speaking or French-speaking universities (Hoffman, 1996: 132).

Luxembourgish, on the other hand, is only taught for one hour a week at primary school level and is completely discarded after the first year of secondary education (Horner & Weber, 2008: 92). Officially, it is employed as a language of instruction for arts, music and sports in primary schools (Hoffmann, 1996: 131-132) and Horner and Weber (2008: 98) draw attention to the fact that it is officially excluded from virtually all areas of primary and secondary education. No major policy changes in relation to Luxembourgish have occurred since the Educational Act of 1912 when Luxembourgish was first introduced as a school subject in primary schools. The teaching of Luxembourgish was extended to the first two years of secondary schools in the immediate aftermath of World War II. The official recognition of Luxembourgish as the country's national language in 1984 was not followed by an increase in status for Luxembourgish in the educational sphere. The ongoing official exclusion of Luxembourgish from the education system is particularly striking due to the major role of language teaching and the use of multiple languages of instruction in Luxembourg's education system. In an official Ministry of Education report, Luxembourgish is described as an inadequate tool for academic purposes due to its primary role as a spoken medium of communication and its former definition as a dialect (Berg & Weis, 2005: 76). Simultaneously, the Ministry of Education acknowledge the fact that Luxembourg constitutes one of the rare countries where the national language has been extremely marginalised in the education system.

As Luxembourgish has so far only been extensively codified with regards to orthography (Gilles & Moulin, 2003: 317), an increase in the official use and

status of Luxembourgish in education requires considerable and more comprehensive standardisation of the language particularly in relation to the development of dictionaries and grammars. Whereas small grammatical descriptions of Luxembourgish are available, effective use and teaching of Luxembourgish in education requires the development of teaching and learning materials based on extended Luxembourgish grammars and dictionaries (Gilles & Moulin, 2003: 323). Codification and norm selection is an ongoing process in Luxembourg which has so far only been addressed in relation to phonology and orthography (Stell, 2006: 54). Consequently, questions regarding the status of Luxembourgish in education are accompanied by the challenges resulting from the incomplete standardisation of the language.

In 2006, the Council of Europe drew attention to patterns of low educational attainment among Luxembourg's student population and established the students' competence in the various languages of instruction (i.e., German and French) as a factor for educational success (Council of Europe, 2006: 17). At primary school level 20.4 percent of students show an educational delay of one year or more; this educational delay increases to 62.6 percent for students enrolled in technical secondary schools (Council of Europe, 2006: 18). Secondary education is largely split between classical and technical secondary schools. Whereas classical schools aim to prepare students for higher education at university level, technical schools generally serve as an initiation into various professions. Horner and Weber (2008: 88) reveal that only 16.7 percent of young people successfully obtained the secondary school leaving diploma in 2005. French and German are among the school subjects that cause the highest number of fail rates (Council of Europe, 2006: 19). Whereas students from Romance-speaking immigrant communities such as the Portuguese and Italians excel in French and struggle with the acquisition of German, ethnically Luxembourgish students are faced with the opposite scenario (Council of Europe, 2006: 19).

Throughout this thesis, school students will be classified according to ethnicity.

The classification will be based on students' own classifications in terms of nationality, elicited through self-completion written questionnaires (see section 3.5.1 for methodological details). However, in reality students' perceptions of their ethnic backgrounds may be more fluid and, therefore, may not map onto a rigid classification of ethnic groups imposed by the researcher. While this categorisation approach may be unable to take into account the complexities of Luxembourg's population at all times, it was deemed necessary in order to be able to quantitatively account for the fact that Luxembourg's student population is ethnically diverse. Moreover, the use of ethnic groups as an explanatory variable in the data analysis will ensure that the findings of this thesis are comparable with previous investigations carried out by the Ministry of Education and the Council of Europe. Clarification is also required in relation to the use of the terms 'foreign' and 'immigrant'. In this thesis, various ethnic groups labelled for example 'Portuguese' or 'Italian' are referred to as immigrant communities. In order to avoid introducing further layers of complexity into the categorisation of students' ethnic backgrounds, no distinctions are made between first, second or third generation immigrants. Finally, French and German are occasionally referred to as 'foreign' languages particularly when using statements (made by informants) regarding the language situation in Luxembourg. In these instances, the label 'foreign' was kept as this word commonly occurs in every day and popular discourses in Luxembourg.

2.2.4 Summary

Despite the highly multilingual nature of Luxembourg's population and the extensive efforts by language planners to regulate the daily use of Luxembourgish, French and German through official language policies inside and outside the educational context, Luxembourg's sociolinguistic situation is largely under-researched (Fehlen, 2002: 81). Much of the sociolinguistic research on Luxembourg lacks an empirical basis and both patterns multilingual language behaviour and attitudes towards the various languages used in Luxembourg have

so far not been researched in detail (Horner & Weber, 2008: 81-84). Luxembourg, therefore, offers a rich context for a study of language attitudes and multilingual language behaviour. By focusing on Luxembourg's educational context, this thesis attempts to throw further light onto the ways in which a study of language attitudes and multilingual language behaviour can inform language planning and policy decisions as well as to further our understanding of bilingual and multilingual education programmes. The remainder of this chapter will provide a review of some of the theoretical underpinnings of the research fields (i.e. sociolinguistics, social psychology, code-switching, bilingualism and language planning and policy research) that provide the basis for this study. For purposes of clarity, the following aspects of relevant research areas will be reviewed separately: socio-psychological aspects (2.3), language production aspects (2.4) and educational and political aspects (2.5). However, attention will be drawn to the various connections that exist between these areas of interest.

2.3 Socio-psychological aspects: language attitudes

2.3.1 Definitions

Social psychology is the parent discipline of language attitude research and linguists interested in the socio-psychological aspects of language production must be fully aware of the psychological complexity of attitudes (Baker, 1992: 8). While attitude research has long played a distinctive and crucial role in social psychology, the concept of attitudes has also become a major point of interest in sociolinguistics (Garrett *et al.*, 2003: 2). However, the exact nature of attitudes remains a highly debated topic despite the wide interest that attitudes have received from various research fields.

An attitude can be defined as a 'psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor' (Eagley & Chaiken, 1993: 1). This definition of an attitude as a 'psychological tendency'

calls attention to the fact that attitudes constitute a speaker-internal concept which consists of a speaker's attribution of various degrees of goodness or badness to a given entity (Eagley & Chaiken, 1993: 1-3). Evaluative responses to an entity include, for example, approval or disapproval, favour or disfavour, liking or disliking, approach or avoidance and attraction or aversion (Eagley & Chaiken, 1993: 3). Social psychologists typically refer to these entities as 'attitude objects' which they loosely define as anything that can be evaluated (Eagley & Chaiken, 1993: 4). Consequently, attitude objects can be concrete (e.g., different kinds of food) or abstract (e.g., feminism) as well as inanimate (e.g., computers) or animate (e.g., people, groups of people) (Bohner, 2001: 241).

Due to their hypothetical or speaker-internal nature attitudes are not directly observable but need to be inferred from observable responses (Eagley & Chaiken, 1993: 2). A researcher can obtain such observable responses by confronting people with a set of stimuli such as direct questions aiming to elicit people's reactions towards particular attitude objects. While the speaker-internal nature of attitudes continues to cause disagreement regarding the exact definition of attitudes (Garrett *et al.*, 2003: 2), considerable consensus has been reached with regards to the composition (2.3.2) and functions (2.3.4) of attitudes which will be reviewed in detail below.

2.3.2 Components

It is widely claimed that attitudes contain cognitive, affective and behavioural components (Garrett *et al.*, 2003: 3). People's evaluative responses to stimuli can be divided into three classes – cognition, affect and behaviour (Eagley & Chaiken, 1993: 10). Evaluative responses of the cognitive type are also referred to as 'beliefs' which consist of the connections or associations that people establish between an attitude object and various attributes (Eagley & Chaiken, 1993: 11). Fishbein (1967: 259) explains that 'the cognitive component refers to beliefs about the nature of the object and its relations to other objects'. A connection or

relation of this kind can, for example, be reflected in a person's belief that learning the Welsh language will help them to get a better job in Wales (Garrett *et al.*, 2003: 3). A person holding this belief has established a connection between the acquisition of Welsh (Object A) on the one hand and finding better employment (Object B) on the other hand.

Evaluative responses of the affective type, on the other hand, consist of feelings and emotions such as a person's feeling of enthusiasm for poetry written in the Welsh language (Garrett *et al.*, 2003: 3). The affective component of an attitude can also be manifested in the form of 'sympathetic nervous system activity' that people experience when they are confronted with certain attitude objects (Eagley & Chaiken, 1993: 11). Whereas some people experience a feeling or emotion of anger when considering nuclear power stations, others feel hope and optimism (Eagley & Chaiken, 1993: 11). The affective component of attitudes frequently constitutes the focus of inquiry in attitude research (Fishbein, 1967: 257) and it gains further importance due to its close connection with the cognitive component (Garrett *et al.*, 2003: 10). While beliefs (i.e. cognitive component) are typically free from affective content, they may be based on or lead to affective reactions (Garrett *et al.*, 2003: 10). Consequently, attitude researchers must take into account both people's beliefs (cognitive component) and their feelings (affective component) towards attitude objects.

The third component of attitudes is behavioural in nature and is referred to as the 'behavioural', 'conative' or 'action' component (Eagley & Chaiken, 1993: 12; Fishbein, 1967: 259). Various definitions of the behavioural component of attitudes have been put forward. On the one hand, this final component of attitudes has been described as both leading to overt actions and reflecting people's behavioural intentions (Eagley & Chaiken, 1993: 12). According to this definition, a behavioural response does not necessarily result in actual behaviour, but can merely represent a person's desire to act. For example, a positive attitude towards the Green Party could involve the intention to donate money to the

party's election campaign. (Bohner, 2001: 242) Actual behaviour, on the other hand, would consist of physically donating money to the election campaign. While this dual definition encompasses both concrete behaviour and abstract behavioural intentions, Fishbein (1967: 259) conversely argues that the behavioural component solely consists of intentions to act and does not lead to or include concrete actions. In addition to restricting the behavioural component of attitudes to a person's intention or desire to act (as opposed to concrete actions), Fishbein (1967: 259) establishes a close connection between the behavioural and cognitive components of attitudes in the following definition:

Both the cognitive and action components of attitude can be viewed as beliefs about the object. The cognitive component refers to beliefs about the nature of the object and its relations to other "objects", while the action component refers to beliefs about what should be done with respect to the object.

This definition is in keeping with the argument that the behavioural component consists of an intention to act, as opposed to a real action. The disagreements concerning the exact nature of the behavioural component of attitudes draw attention to the complex relationship between attitudes and behaviour which will be discussed in more detail in section 2.3.6.

As outlined above, the cognitive, affective and behavioural components of attitudes can all be described as 'evaluative' responses to an attitude object (Eagley & Chaiken, 1993:10). However, disagreements regarding the association of 'evaluation' with all three attitude components persist among attitude theorists. Some social psychologists define affect and evaluation as identical concepts and use the terms interchangeably. Within this definition, beliefs (i.e. cognitive component) are regarded as 'motivationally and emotionally neutral' and do not consist of an evaluative response (Fishbein, 1967: 259). On the other hand, Fishbein (1967: 259) argues that all beliefs indicate some degree of favour or

disfavour and, therefore, are evaluative in nature. Recent advances in attitude theory and research on affect and emotion have established affect and evaluation as distinct concepts (Eagley & Chaiken, 1993: 12). According to this line of thought, people can express evaluation through cognitive, affective and behavioural responses.

The tripartite model of attitudes outlined above raises the question of whether attitudes must always contain all three components. Research carried out by social psychologists has shown that all three components do not have to be in place for an attitude to emerge, as attitudes can be based largely or exclusively on any of the three concepts (Eagley & Chaiken, 1993: 16). In addition, whenever an attitude contains all three components, these do not have to be in agreement with each other. Fishbein (1967: 257) explains that ‘a multi-component conception of attitude turns out to be a multi-dimensional conception, and the attitude of any one person toward an object or concept may fall at three very different positions on three different dimensions’. Consequently, a person may believe (i.e. cognitive component) that speaking a particular language will help him/her to get a better job while simultaneously having a negative emotional response (i.e. affective component) to this language.

2.3.3 The prediction of attitudes from beliefs

In attitude theory, beliefs are often described as the ‘building blocks’ of attitudes (Eagley & Chaiken, 1993: 103). Fishbein’s (1967: 259) description of an attitude as a ‘hypothetical variable’ is based on the idea that attitudes are ‘abstracted from the many statements and actions that an individual makes with respect to a given object’. Consequently, researchers are only able to analyse attitudes by considering people’s many beliefs collectively (Fishbein, 1967: 259). Beliefs can be accessed in a straightforward manner as people consciously believe or disbelieve in the existence of an object and can express what they believe should be done in relation to an object. People’s beliefs about objects can subsequently

be connected with their affective evaluation of these objects. The expectancy-value model constitutes a popular framework for the prediction of attitudes from beliefs and the following discussion will throw further light onto the benefits of connecting cognitive and affective components in attitude research (Eagley & Chaiken, 1993: 106).

In the expectancy-value model people hold positive attitudes towards objects/concepts which they associate with positive attributes, and negative attitudes towards objects/concepts which they associate with negative attributes (Eagley, & Chaiken, 1993: 108). This model is based on the idea that 'one's attitude (understood in the abstract sense of evaluation) is a function of one's beliefs, when these beliefs are represented as the sum of the expected values of the attributes ascribed to the attitude object' (Eagley & Chaiken, 1993: 106). These 'expected values' contain an 'expectancy' and a 'value' component. The expectancy component consists of the probability that the attitude object is characterised by the attribute. For example, a person can hold a belief that a film has amusing dialogue but simultaneously lacks an interesting story line. 'Amusing dialogue' and 'lack of interesting story line' are attributes of the attitude object. The expectancy component represents the probability that the film (i.e. attitude object) contains amusing dialogue but lacks an interesting story line (i.e. attributes). The value component of the expectancy-value model consists of the evaluation of each attribute. So a viewer is likely to evaluate positively amusing dialogue but evaluate negatively the lack of interesting story line. The expectancy-value model combines both components in order to predict an attitude from the evaluative meaning of beliefs. Eagley and Chaiken (1993: 106) conclude that the model 'proposes that evaluation of an attitude object is a summation of the evaluations associated with the particular attributes that are ascribed to the attitude object'.

The expectancy-value model draws attention to the importance of combining people's many beliefs with their evaluations. The linkages or associations which

people establish between various entities (i.e. beliefs), such as for example that a particular film (entity A) contains amusing dialogue (entity B), need to be connected with their positive or negative evaluation of these entities in order to fully understand their attitudes. In other words, finding out that a person believes that a particular film contains amusing dialogue cannot reveal to the researcher whether this person holds a positive or negative attitude towards this film. The researcher must also assess whether this person likes or dislikes amusing dialogue.

Much attitude theory and research is based on the assumption that attitudes develop as a consequence of cognitive learning. During these cognitive learning processes people form beliefs about objects based on information they progressively gathered (Eagley & Chaiken, 1993: 14). Beliefs can be formed through both direct and indirect experience with attitude objects. For example, a person can directly learn about the attributes of a new type of food by eating it. Alternatively, beliefs can be formed through indirect experience with a new type of food when it is seen in a television advertisement. Consequently, beliefs play an important role in the formation as well as the investigation of attitudes. This is visible in the processes which underlie the expectancy-value model of attitudes.

2.3.4 Functions

The high degree of complexity found in the composition of attitudes also applies to the functions of attitudes. In social psychology research, a distinction is typically made between the following four functions of attitudes: knowledge (1), utilitarian (2), social identity (3) and self-esteem maintenance (4) (Bohner, 2004: 242-243). The knowledge function (1) consists of having a formulated attitude towards an object which can be retrieved every time the object in question is encountered. As previously outlined (2.3.3), attitudes are formed through processes of cognitive learning the first time people encounter a particular attitude object. Once attitudes are formed, they are stored so that each time the same

attitude object is encountered, the attitude can simply be retrieved without having to figure out again how to behave towards it (Bohner, 2004: 242). However, attitudes can still change despite this knowledge function.

Attitudes can also fulfil a utilitarian function (2) by assisting people in achieving positive goals and avoiding negative outcomes. Bohner (2004: 243) provides the example of attitudes to certain types of food and claims that 'one's attitude towards pizza should be based on the rewards (pleasant taste, repletion) and punishments (weight gain, high cholesterol level) associated with pizza'. Consequently, people establish a connection between particular attitudes and their positive and negative outcomes. This example of the utilitarian attitude towards types of food can illustrate how attitudes can change over time. A person may hold a negative attitude towards pizza most of the time, based on the belief that the disadvantages (e.g., weight gain) outweigh the advantages (e.g., pleasant taste). However, occasionally the disadvantages can override the advantages. As a result of this, the same person can temporarily change his or her attitude towards pizza.

The social identity function (3) of attitudes helps people to identify themselves with certain social groups through the expression of their attitudes (Bohner, 2004: 243). For example, individuals may portray themselves as feminists or conservatives by holding or expressing 'feminist' or 'conservative' attitudes (Bohner, 2004: 243). Finally, through the self-esteem maintenance function (4) of attitudes people associate themselves with positive objects and distance themselves from negative objects. For example, individuals may hold negative attitudes towards minority groups, such as immigrants, due to an assumption that this creation of distance can help to protect them against the danger and negative connotations associated with these groups (Bohner, 2004: 243). The various functions are highly interactive and are often difficult to dissociate as attitudes frequently fulfil multiple functions at the same time (Bohner, 2004: 243).

Linguists researching language attitudes have also identified several functions of attitudes. The functions of language attitudes do not exactly mirror the socio-psychological perspective but demonstrate considerable overlap. A distinction is commonly made between two types of attitudes with differing functions: instrumental attitudes and integrative attitudes (Baker, 1992:31). Instrumental attitudes are influenced by utilitarian motives; for example, speakers may hold positive attitudes towards prestigious language varieties due to an assumption that this will grant them social recognition and economic advantages (Baker, 1992: 32). Instrumental attitudes are described as ‘self-oriented’ and ‘individualistic’ (Baker, 1992: 32) and they are, therefore, closely connected to the socio-psychological utilitarian and self-esteem maintenance functions of attitudes. Integrative attitudes, on the other hand, are typically interpersonal and social in nature (Baker, 1992: 32). Positive integrative language attitudes are very often motivated by people’s willingness to build up social relationships (Gardener & Lambert, 1959). Consequently, a positive integrative attitude towards learning a new language is often influenced by a person’s need to build friendships rather than by an interest in the learning of the language itself. This type of attitude is closely connected with people’s attempt to affiliate themselves with particular speech communities and to signal similarities between themselves and speakers of the language communities which they are aspiring to be part of (Baker, 1992: 32). Integrative language attitudes, therefore, demonstrate considerable overlap with the social identity function of attitudes established by social psychologists. The socio-psychological definitions of the components and functions of attitudes therefore have clearly influenced language attitude research and have been integrated in an adapted form.

Apart from fulfilling instrumental and integrative functions, language attitudes also function as both input and output (Garrett *et al.*, 2003: 6). This dual function of attitudes is considered to be of particular importance in educational research and is explained by Baker (1992: 12) as follows. A student’s positive attitude towards learning a language may function as a crucial input factor in language

achievement. In other words, a positive attitude towards learning a particular language can positively influence the acquisition of the same language. Alternatively, a student's attitude towards a particular language may change after having successfully attended a language course. In this case, attitudes function as output (Baker, 1992: 12). This double function of attitude is also of interest in areas such as language planning and language policy and Garrett *et al.* (2003: 6) point out that the input/output function of attitudes is often referred to when explaining the role of attitude in the reception and production of language.

2.3.5 The importance of language attitudes

Language attitude research is primarily concerned with assessing the reasons for favourability and unfavourability towards particular languages. The notions of favourability and unfavourability in relation to languages can provide an indication of the status of a language in a society (Baker, 1994: 30). Researchers have to define clearly the target of their research questions as attitudes can be measured in relation to learning a new language, to a specific minority language, to language communities and minorities, to the uses of a specific language, to language preferences, etc. (Baker, 1992: 29). Studies of language attitudes have been undertaken at different levels of specificity. Some studies have focused on the evaluative meanings of particular phonological variants whereas the linguistic focus is much broader in research concerned with attitudes towards whole languages (Garrett *et al.*, 2003: 13). Studies of language attitudes attempt to reveal, for example, whether language attitudes can cause certain social groups, such as speakers of a minority language, to be more or less successful in domains like the labour market or the educational system (Garrett *et al.*, 2003: 12). Moreover, language attitude research does not simply aim to provide an overview of a population's attitudes towards various languages or language varieties but is concerned with revealing what it is that determines and defines these attitudes (Garrett *et al.*, 2003: 13). In other words, researchers investigate the reasons why

certain languages (or, for example, particular phonological variables) are positively or negatively evaluated by certain speech communities.

The findings of language attitude studies can have far-reaching implications. Language attitude research is often linked to language planning and language policy activities as speech communities commonly hold shared attitudes about suitable language practices which have to be taken into account during the development and implementation of language policies (Spolsky, 2004: 14). Lewis (1981: 262) exemplifies this connection through the following claim:

In the long run, no policy will succeed which does not do one of three things: conform to the expressed attitudes of those involved; persuade those who express negative attitudes about the rightness of the policy; or seek to remove the causes to the disagreement.

Education emerges as a particularly important domain for the study of language attitudes as it has been shown that language attitudes can considerably influence students' academic achievements and career opportunities (Garrett *et al.*, 2003: 19). Language planning and policy, as well as the role of language in education, will be discussed with reference to the importance of language attitudes in section 2.5.6.

2.3.6 Attitudes and behaviour

As previously outlined (2.3.2), the disagreements regarding the behavioural component of attitudes call attention to the complex relationship between attitudes and behaviour, and extensive discussions concerning the use of attitudes as predictors of behaviour persist among attitude researchers. Baker (1992: 15) argues that people's actions are often inconsistent across different contexts and that 'as props on the stage change, as different actors and actresses change, different scripts are enacted [...], behaviour may change accordingly, and

attitudes may become imperfect explainers and predictors of behaviour.’ While this emphasis on context casts doubts on a straightforward connection between attitudes and behaviour, attitudes are often studied because of a belief that they can be at the origin of behaviour (Bohner, 2001: 270). Social psychologists emphasise the importance of adhering to the ‘correspondence principle’ when correlating attitudes with behaviour as people’s general attitudes (e.g. measurement of attitudes towards religion through a questionnaire) cannot be successfully correlated with specific behaviour (e.g. attending a specific church service on a particular day) (Bohner, 2001: 271). Attitudes can be correlated with behaviour only if both have been measured in relation to the same context. For example, this thesis will refrain from correlating a general measurement of students’ attitudes towards French with their specific language choice during classroom interactions. In agreement with the correspondence principle, language choice in the classroom context will be correlated with students’ attitudes towards French as a language of instruction. This approach ensures that both attitudes and behaviour have been measured in relation to the educational context. Adhering to the same level of generality during the measurement of attitudes and behaviour can enhance the predictive validity of language attitudes during the investigation of language behaviour (Baker, 1992: 16).

While general attitudes can fail to predict specific behaviours, they can nevertheless be correlated with a combination of multiple behaviours according to the ‘aggregation principle’ (Bohner, 2001: 272). The characteristics of the ‘aggregation principle’ are illustrated in Weigel and Newman’s (1976) study of attitudes towards the environment. Participants were first provided with a questionnaire assessing their attitudes towards the environment before they were provided with various opportunities to take part in environmentally friendly activities such as, for example, recycling. The measure of the ‘aggregated’ or combined behaviours showed an extremely high correlation with the expressed attitudes in the questionnaire. Unique factors that are closely related to the specific context in which behaviour occurs may considerably influence people’s

actions and thus lead to a mismatch between their attitudes and their behaviour. Attitudes have therefore been described as better predictors of broad behavioural patterns than of specific behaviours (Baker, 1992: 17).

An investigation of the highly complex relationship between language attitudes and linguistic behaviour can offer new and valuable insights into the socio-psychological aspects of language use. The lack of accord between speaker's language attitudes and his/her language behaviour often constitutes a major point of interest in linguistics (Garrett *et al.*, 2003: 9). For example, during a job interview a speaker may strategically adjust his/her language use to match a socially prestigious language or language variety towards which they normally hold negative attitudes. In this case the particular conditions of the interview have led the speaker to diverge from his/her usual speech style due to a belief that such behaviour may increase his/her chances of getting the job. This level of understanding can only be reached by complementing attitudinal data with language behaviour data. A dual focus on language attitudes and language behaviour, therefore, allows for a better understanding of the interplay between language production and socio-psychological factors such as language attitudes.

According to Hamers and Blanc (2000: 8) socio-psychological processes always play a role in language production, and speakers use language as a tool to convey meaning and fulfil certain functions. The investigation of the connection between language attitudes and language behaviour is particularly suited to multilingual contexts, as code-switching bilinguals, unlike style-shifting monolinguals, are mostly aware of the separate codes which are used in their speech communities (Milroy & Gordon, 2006: 210). For example, a speaker's attitudes towards the various codes they use can influence his/her language choice. Due to speakers' awareness of the separate codes they use, much early research on code-switching and language choice focused on speakers' self-reports (Milroy & Gordon, 2006: 210). However, speakers' self-reports of their language use can be biased by social desirability. Speakers may over-report their use of socially prestigious

languages and deny their use of socially stigmatised varieties (Milroy & Gordon, 2006: 211). Discrepancies between bilingual speakers' self-reported language usage and actual linguistic practices recorded through participant observation have repeatedly been described in the sociolinguistic literature (Gumperz, 1976: 4). In a study carried out in Norway, participants reported that they exclusively used their local dialect whereas tape-recorded data showed that they frequently switched into standard Norwegian (Gumperz, 1976: 4). Combining attitudinal data with language production data can help to identify the motivations underlying conversational code-switching in multilingual settings. The following section will, therefore, turn towards a discussion of various approaches and frameworks which have been employed in the analysis of code-switching behaviour. Particular attention will be paid to the varying degrees of importance that different code-switching frameworks assign to the role of attitudes in the production of language.

2.4 Behavioural aspects: code-switching behaviour

2.4.1 Introduction

Various frameworks and levels of analysis have been employed in code-switching research carried out in a vast array of linguistic contexts. While socio-pragmatic approaches attempt to reveal the various functions fulfilled by code-switching, structural/linguistic approaches focus on the grammar and lexicon of bilingual speakers' language production (Poplack, 1980: 585). A detailed discussion of the theoretical underpinnings of structural/linguistic analyses of code-switching is beyond the scope of this thesis as the aim of this research consists of gaining insights into the role of socio-psychological and socio-pragmatic factors in multilingual language production. The following sections will, therefore, review several theoretical approaches that have been developed for the investigation of the various functions fulfilled by code-switching behaviour. The final section (2.4.7) will concentrate on code-switching research in educational settings as the

multilingual language production data collected for the purposes of this study exclusively consist of recorded classroom interactions.

2.4.2 Discourse Analysis and Code-switching

Sociolinguistic research investigating the meanings conveyed by code-switching practices was largely pioneered by Gumperz who studied code-switching from an interactional perspective and described the use of multiple languages in the same interaction as a ‘communicative resource’ rather than a ‘communicative deficit’ (Gumperz, 1982: 89; Shin & Milroy, 2000: 352). Gumperz (1982: 89) argues that although code-switching is influenced by some syntactic constraints, ‘data suggest, however, that such syntactic constraints are in turn motivated by underlying factors which depend more on certain aspects of surface form or on pragmatics than on structural or grammatical characteristics’. In conversation, speakers are preoccupied with the communicative effect of their utterances and they attempt to convey metaphoric information about how their words should be interpreted (Gumperz, 1982: 61). Gumperz (1982: 131) introduced the notion of code-switching practices as ‘contextualization cues’; these are defined as ‘surface features of message form’ which act as ‘the means by which speakers signal and listeners interpret what the activity is, how semantic content is to be understood and how each sentence relates to what precedes or follows’. Similar to other actions such as gestures or prosody, code-switching, therefore, functions as a meaningful signalling device helping speakers to convey meaning and listeners to understand the intended meaning (Shin and Milroy, 2000: 352). In his analysis of conversational code-switching, Gumperz (1982: 66) draws on the concept of identity and largely distinguishes between ‘we codes’, which are typically represented by the ethnic minority language and express in-group solidarity, and ‘they codes’ which mostly consist of the dominant and more formal majority language.

A further distinction is made between 'situational switching' and 'metaphorical switching' (Gumperz, 1982: 98). Within a speech community certain activities or situations can become associated with certain codes and, therefore, the switch to a particular code can signal 'the enactment of these activities even in the absence of other clear contextual cues.' Metaphorical switching is closely connected with its context and it frequently occurs when speakers code-switch, for example, to quote, to give emphasis to their utterances or to joke (Auer, 1984: 4). This type of code-switching has also been described as an attempt by speakers to give 'a certain socially pre-determined 'flavour' to their discourse' (Esdahl, 2003:78). The meaning conveyed by metaphorical code-switching is heavily dependent on the 'societal evaluation' of the various languages and whether they largely function as 'we codes' or 'they codes' (Esdahl, 2003:78). Gumperz's 'we code/they code' distinction is based on the assumption that speakers associate different languages with different, often ethnic, identities, and it originates from the perspective that language reflects society in a direct manner (Gafaranga, 2005: 284). This approach to code-switching, however, has drawbacks as a clear separation between 'we codes' and 'they codes' in a given speech community is an oversimplification (Gafaranga, 2005: 290). In a study of code-switching among British-born Caribbeans living in London, Sebba and Wootton (1998: 264) draw attention to the difficulties researchers can encounter when trying to establish which codes act as 'we codes' and 'they codes' in a particular speech community. Their data demonstrate that both London English and London Jamaican can function as 'we codes' at different points in an interaction. So Sebba and Wootton (1998: 275) conclude that 'it is not possible to make a priori assumptions about which code carries the putative 'we' functions and which the putative 'they' functions'. These insights can only be gained if researchers do not assume that there is a fixed relationship between a certain social identity (e.g. Caribbean) and a particular language (e.g. London Jamaican). In order to address the complex relationship between language and identity, Sebba and Wootton combined an ethnographic study of the target community with a conversation analysis approach enabling them to reveal how the connection between language and social

identities is constructed in context (see 2.4.4 for an overview of the conversation analysis approach). The abovementioned shortcomings of the 'we code/they' code approach will be taken into consideration during the analyses of code-switching practices presented in this thesis. For example, French and German will not be assumed to represent unequivocally the 'we code' of the teachers due to their status of languages of instruction. The analyses will demonstrate how both teachers and students initiate code-switches into Luxembourgish, French and German for various purposes and that the speakers' respective roles of 'teacher' and 'student' do not predetermine which languages they employ during classroom interactions. Despite certain limitations to his framework, Gumperz's preoccupation with the communicative effect of code-switching provided the foundation for the development of two further influential frameworks of analysis for conversational code-switching, namely Myers-Scotton's Markedness Model (2.4.3) and Auer's sequential approach to language alternation (2.4.4)

2.4.3 Markedness Model

The view of code-switching as an interactional strategy, introduced by Gumperz (2.4.2), was adapted by Myers-Scotton in her Markedness Model (Shin and Milroy, 2000: 352, Myers-Scotton, 1998). In addition to drawing on Gumperz's description of code-switching as a contextualisation cue, Myers-Scotton's Markedness Model (1999: 1260) is heavily based on Rational Choice Models. Elster (1989: 22) summarises the essence of Rational Choice or Rational Actor Models through the following claim: 'When faced with several courses of action, people usually do what they believe is likely to have the best overall outcome'.

The theory underlying Rational Choice or Rational Actor models originates from economics and sociology. Myers-Scotton's Markedness Model is particularly influenced by the work of the philosopher Jon Elster (1989) who claims that people's actions are filtered by two separate processes before they occur (Myers-Scotton, 1999: 1260). During the first filter the speaker's opportunity set is

formed. The second filter constitutes the moment in time where the speaker consciously chooses between different options. Both filters and related terms are explained in detail below.

The first filter contains so-called structural constraints which, for example, consist of social factors such as the participants' social identity features (e.g. age, sex, socioeconomic status, ethnicity) or the characteristics of the discourse situation (e.g. topic, setting) (Myers-Scotton, 1998). According to Myers-Scotton (1999: 1260) 'surface discourse structural features' are a further type of structural constraints. This type of constraint encompasses 'structural features that organize discourse, particularly those having to do with sequential organization' (Myers-Scotton, 1998: 34). For example, whether a particular utterance represents the first or the second part of an adjacency pair can have an impact on its content or form (Myers-Scotton, 1998: 34). Many of these discourse structural constraints originate from the work carried out in conversation analysis (CA). The different types of constraints which form the basis of this first filter are 'external', as the speaker does not have any direct control over them (Myers-Scotton, 1998: 34). These social and discourse structural factors influence the speaker's 'opportunity set' which is defined as the speaker's linguistic repertoire. This repertoire is composed of the various languages, dialects and styles the speaker is able to use. Discourse strategies such as turn-taking, minimal responses and overlaps are also part of the speaker's linguistic repertoire or opportunity set (Myers-Scotton, 2002: 207). Once the structural constraints of the first filter have operated and the speaker's opportunity set has been formed, the speaker finally gains control over the interaction and is able to make conscious choices about which codes to use. In other words, the first filter establishes a set of possible choices from which the speaker is able to choose during the second filter.

The second filter proposed in Elster's Rational Choice or Rational Actor models includes the mechanisms which allow a speaker to consciously choose a specific outcome among the various options provided by the opportunity set (formed

during the first filter) (Myers-Scotton, 1998: 34). Rationality is the crucial factor in this second filter. At this stage the speaker consciously engages in a cost-benefit analysis and opts for the choice which offers the best overall outcome in terms of interpersonal relationships. Myers-Scotton (2001: 5) applies this theory to the analysis of code-switching in conversation and claims that ‘speakers are rational in the sense that their choices depend largely on assessments of possible options in terms of a cost-benefit analysis that takes account of their own subjective motivations and their objective opportunities’. This statement highlights the complex interplay of people’s prior attitudes, beliefs and values on the one hand and their temporary aims and desires in a given interaction on the other hand (Myers-Scotton, 1999: 1261). In fact, speakers contemplate their possibilities and rationally opt for the choice which allows them to fulfil their temporary desires without compromising their prior beliefs. This concept will be illustrated with an example below.

The Markedness Model (MM) is based on the assumption that both speakers and analysts are able to distinguish between marked and unmarked codes or choices. Myers-Scotton (1998: 22) explains that all speakers have a ‘markedness evaluator’ which consists of a cognitive capacity to evaluate markedness. In order to be able to conceptualise markedness speakers need to develop two abilities:

- (1) the ability to recognize that linguistic choices fall along a multidimensional continuum from more unmarked to more marked and that their ordering will vary, depending on the specific discourse type;
- (2) the ability to comprehend that marked choices will receive different receptions from unmarked choices (Myers-Scotton, 1998: 22).

Speakers acquire these abilities through contact with both marked and unmarked codes (Myers-Scotton, 1998: 22). Consequently, speakers need to be exposed to the use of marked and unmarked codes in community discourse in order to learn which codes are expected to be used under which circumstances. The markedness

evaluator can be regarded as an additional filter which occurs in between the structural constraints of the first filter and the rationality of the second filter (Myers-Scotton, 1998: 34). In order to be able to decide which code will have the best overall outcome in a particular situation (second filter) a speaker must first know whether the code is marked or unmarked (markedness evaluator). Myers-Scotton (1998: 34) claims that the markedness evaluator further biases ‘the selection of alternatives from the initial, structurally determined opportunity set, this time in terms of “successes” or “failures” based on the actor’s previous factual experience, facts previously categorized in an unconscious cost-benefit analysis’.

Unmarked choices remain unnoticed in an interaction because they act in accordance with the social expectations attached to the various codes. Marked choices, on the other hand, violate these social expectations and can, therefore, be used strategically by speakers (Milroy and Gordon, 2006: 213). Quantitatively establishing which codes are marked or unmarked constitutes a vital step in an analysis of code-switching based on the Markedness Model. Simple frequency counts can be used to define the less frequently-used language as the marked code and the more-frequently used language as the unmarked choice (Myers-Scotton, 2002a: 206). The use of the marked code is based on the speaker’s rational decision to employ this code in order to fulfil a specific goal in a particular interaction (Myers-Scotton, 2002a: 218). Consequently, in order to be able to analyse the meaning of the use of different codes the researcher must, first of all, clearly define which codes s/he thinks are marked or unmarked in a given interaction.

The quantification of marked and unmarked codes can be exemplified with Myers-Scotton’s (2002a: 209) analysis of code-switching between English and Chichewa in a Malawi family living in the United States. Chichewa is identified as the parents’ unmarked code during home conversations as it constitutes the most frequently-spoken language by the parents. Only 6 percent of the father’s

and 7 percent of the mother's utterances are English-only (Myers-Scotton, 2002b: 210). Myers-Scotton (2002b: 210) explains that this identification of Chichewa as the unmarked code based on simple frequency counts is supported by the parents' language attitudes, which were assessed in a follow-up interview. The parents described their conscious efforts to speak Chichewa at home with their children in order to maintain their indigenous language. The children, on the other hand, largely speak English at home as approximately 70 percent of their utterances are English-only. The identification of English as the children's unmarked code is not only supported by these frequency counts but also by the children's attitudes towards English as the language awarding them independence from their parents (Myers-Scotton, 2002b: 210). However, both children switch to Chichewa at various points during family conversations in order to fulfil temporary goals. For example, during an argument between the two children one of them addresses their father in Chichewa, the father's unmarked code and preferred language of communication, when seeking support from the father. This temporary switch to the marked code constitutes an example of a speaker abandoning their prior attitudes (i.e. preference for English) in order to achieve a temporary goal (i.e. receiving support).

Socio-psychological factors such as language attitudes and speaker identity are incorporated in the Markedness Model. Li Wei (2005b: 377) draws attention to a shortcoming of Myers-Scotton's analysis and claims that the Markedness Model only works if the analyst assumes that each individual will act rationally on all occasions. Moreover, the Markedness Model is based on the assumption that all speakers have an innate 'markedness evaluator' which allows them to evaluate which codes are marked and unmarked in any given interaction. Both Myers-Scotton's Markedness Model and Gumperz's distinction between 'we codes' and 'they codes' in bilingual interactions form part of what Cashman (2008: 276) terms the 'symbolic approach' to language alternation. Symbolic approaches employ speakers' macro-level identities in order to explain language choices. Macro-level identities are defined as the speaker's 'membership in social

categories such as sex-based, racial or ethnic groups' (Cashman, 2008: 284). Symbolic approaches are based on the idea that speakers exploit the social connotations attached to the various codes in order to make meaning in interaction (Cashman, 2008: 276). The following section introduces the sequential approach to code-switching. Researchers employing this alternative approach to code-switching refrain from basing any interpretations of multilingual language behaviour on socio-psychological factors such as attitudes and identity or on theoretical constructs such as rationality.

2.4.4 Conversation Analysis Approach

Various shortcomings of the symbolic approaches, employed in both Gumperz's and Myers-Scotton's work, have led other researchers towards a shift in focus in their analysis of bilingual interactions. Auer (1984: 3) argues against the use of extra-linguistic macro-social categories such as speaker identity (e.g. age, gender, ethnicity etc.) in the interpretation of bilingual conversations. In fact, Auer (1984: 4) emphasises that language alternation must be investigated from an interactional perspective and, therefore, employs a Conversation Analysis (CA) approach for the interpretation of conversational code-switching. CA consists of an analytical framework focusing on the ways in which speakers locally express and interpret meanings on a turn-by-turn basis; particular attention is paid to the sequential positioning of conversational moves in the discourse (Milroy and Gordon, 2006: 218). Auer (1984: 3) strongly advocates a sequential turn-by-turn analysis of code-switching as he believes that each individual code-switch is closely tied to the specific context in which it appears. Context-bound factors are defined as and restricted to information which can be shown to be used by the conversationalists themselves (Auer, 1984: 6). In other words, Auer argues against symbolic approaches such as Myers-Scotton's Markedness Model (2.4.3) or a 'we code/they code' distinction (2.4.2), as these rely on the social connotations attached to different codes. Researchers working within the CA paradigm refrain from imposing their own subjective interpretations onto code-switching data, but

engage in a turn-by-turn analysis of language choices in order to throw light onto the mechanisms which conversation participants themselves employ in the interpretation of the meanings conveyed by language choices (Li Wei, 2005b: 380). The CA approach is 'sequential' in nature due to its emphasis on the construction of meanings in the sequential development of a conversation (Auer, 1984: 78).

In his study of code-switching among Italian guestworkers in Germany, Auer (1984: 12) employs a CA approach and largely distinguishes between discourse-related transfer and code-switching on the one hand, and participant-related transfer and code-switching on the other hand. Auer (1984: 12) defines the different types of language alternation (transfer and code-switching) and their functions (discourse-related and participant-related) through the following questions:

- i) Is the language alternation in question tied to a particular conversational structure for instance, a word, a sentence, or a larger unit (transfer), or is it tied to a particular point in conversation (code-switching)?
- ii) Is the language alternation in question providing cues for the organisation of the ongoing interaction (i.e., is it discourse related), or about attributes of the speaker (participant related)?

Transfer typically happens on the word level and the return into the first language can be easily predicted by participants. Code-switching, on the other hand, consists of a renegotiation of the language of the interaction, and the return into the first language cannot be predicted as the language alternation is not tied to a particular unit such as a word (Auer, 1984: 78).

Discourse-related language alternation acts as an organisational tool and structures the conversation in relation to procedures such as turn-taking and topical cohesion (Shin & Milroy, 2000: 370). Discourse-related language

alternation can change the footing of an interaction (Auer, 1984: 32) which has been described as ‘the conversationalists’ alignments toward people, topics and actions’ (Cromdal & Aronsson, 2000: 435). A change of footing can be achieved, for example, through a re-definition of the participant constellation where the language alternation functions as a mechanism for next-speaker-selection in a conversation. Alternatively, the footing of an interaction can be altered through ‘sequential hierarchisation’. Auer (1984: 32) defines this process as the ‘sequential chaining of utterances’ which consists, for example, of marking the beginning or the end of a side-sequence. Participant-related language alternation, on the other hand, is largely influenced by the language preferences (preference-related language alternation) and linguistic competence of participants (competence-related language alternation) (Auer, 1984: 49-50). Whereas the former consists of a speaker taking into account other participants’ individual language preferences, the latter is characterised by the speakers adapting their own code choice to the language abilities of their interlocutors (Shin and Milroy, 2000: 362).

Auer’s CA approach and its emphasis on a turn-by-turn analysis of the sequential development of bilingual interactions constitutes the basic analytical tool for much code-switching research. In his study of bilingual groupwork among Danish-Turkish pupils, Cromdal (2003: 58) describes his analytical approach as ‘grounded in the theoretical conception of social interaction as an inherently dialogic endeavour, in which mutually recognisable interactional projects are accomplished through sequentially organised trajectories of action’. A turn-by-turn analysis reveals the ways in which bilingual children (Turkish-Danish) employ different codes in order to demarcate social relationships. The participants establish the use of different codes as a means of creating social distance as well as alliances among themselves. During a task focusing on the creation of a storyline, Selma rejects Erol’s suggestion for how the story should unfold. In reaction to Selma’s rejection, Erol code-switches from Danish into Turkish. Cromdal (2003: 64) interprets this code-switch as an attempt by Erol to distance

himself from Selma and to signal his disagreement. In addition, Cromdal (2005: 344) demonstrates how two girls in an English-Swedish bilingual school create a 'bilingual order of conduct' in which English is employed when direct references are made to the written text through procedures such as quoting, dictating and spelling, and Swedish functions as a medium of communication for the remainder of the interactions. Only a turn-by-turn interactional analysis can reveal how language alternation functions as a structuring device in conversations. By adapting Auer's CA approach to bilingual conversation, Cromdal (2003, 2005) is able to demonstrate how speakers build social relations as well as structure their interactions on a local level.

The CA approach has, however, been seriously criticised due to its preoccupation with transcription details (Li Wei, 2002: 174). A detailed focus on transcription conventions can be regarded as unnecessary as all transcripts are subjective and, therefore, favour the application of some theories over others (Li Wei, 2002: 174). During the transcription of recorded interactions, researchers take decisions regarding the amount of detail (e.g. nonverbal cues, prosody, silence) that will be included in a transcript (Li Wei, 2002: 174). Consequently, transcripts do not constitute exact representations of interactions. The decisions taken during the transcription can have an impact on the analysis of the data at a later stage. This introduces a layer of subjectivity into CA approaches which claim to base their interpretations of language alternation practices solely on context-bound cues. Moreover, Myers-Scotton and Bolonyai (2001: 4) claim that CA offers a 'flat explanation of choice' due to its neglect of both the social background of speakers (age, gender, ethnicity) and the 'socio-psychological associations and, therefore, the social messages carried by one linguistic choice rather than another'. Auer (1998: 13), however, argues that CA does not disregard the possibility of a connection between macro-social variables and specific linguistic choices in conversation. Conversation analysts simply refuse to base their interpretations on an assumption that certain codes are closely associated with certain identities (Li Wei, 2005b: 382). If, however, the analyst can demonstrate how speakers

actively construct these identities through a turn-by-turn analysis of a bilingual conversation, such extra-linguistic social explanations are supported by the CA approach. Such an analysis combines both elements from the symbolic and sequential approaches to code-switching.

In order to be able to incorporate both approaches into a single model the distinction between ‘brought-along’ and ‘brought-about’ meaning in interaction needs to be clarified. The symbolic approaches to code-switching (2.4.2 and 2.4.3) focus on ‘brought-along’ meaning in interaction as the languages which are spoken in a given interaction are seen to bring along social meaning (Mendoza-Denton & Osborne, 2010). ‘Brought-along’ or symbolic approaches to code-switching are based on the indexicality of linguistic varieties. Bucholtz and Hall (2005: 594) claim that ‘in identity formation, indexicality relies heavily on ideological structures, for associations between language and identity are rooted in cultural beliefs and values [...] about the sorts of speakers who (can or should) produce particular sorts of language’. In other words, ‘brought-along’ approaches are based on the assumption that languages are associated with particular identities or social connotations and that speakers exploit these associations in order to convey meaning in their interactions.

‘Brought-about’ approaches, on the other hand, do not rely on any social or symbolic meanings attached to languages but focus on the interactional nature of code-switching. Auer’s sequential analysis of language alternation with its focus on the creation of local meaning constitutes an example of the ‘brought-about’ approach. Li Wei (2005b: 387) draws attention to the benefits of combining symbolic and sequential analyses as a ‘dual-level approach [...] would help to extract factors that can deepen our understanding of the way bilingual speakers use their linguistic and interactional resources and achieve a richer, more interesting, but still relevant (to the participants of the interaction) explanation.’ A combined analysis can account for the ways in which bilingual speakers create

meaning through their code-switching practices on both local and social levels. An example of a dual-level approach will be discussed below.

Bani-Shoraka's (2008) analysis of Persian-Azerbaijani code-switching in Iran incorporates elements from both 'brought-along' and 'brought-about' approaches to code-switching. She supplements her sequential analysis of conversational code-switching with ethnographic information on the linguistic ideologies of the society. In Iran, Persian constitutes the sole official language and benefits from high national prestige. Azerbaijani is associated with local in-group prestige but is stigmatized in Iranian society on a national and official level (Bani-Shoraka, 2008: 17). In her analysis of an interaction between two speakers, Sara and Darya, Bani-Shoraka (2008: 25) demonstrates how Darya switches from Azerbaijani to Persian in order to convey meaning both locally and globally. Both speakers show a preference for Azerbaijani throughout the conversation. Darya has repeatedly asked Sara for permission to get involved in her business investment. After Sara has avoided giving an answer over several turns, Darya switches the medium of interaction and repeats her request in Persian. In this instance, the use of Persian sequentially contrasts with the previous turn and therefore functions as a signalling device on a local level; simultaneously, the use of Persian helps the speaker to convey a sense of authority and competence as Persian is widely associated with seriousness and competence (Bani-Shoraka, 2008: 25). By switching to Persian Darya temporarily gains increased attention as she diverges from the established medium of communication. This switch can be locally interpreted as her attempt to show her irritation with Sara's behaviour. On a global level, she has switched to the language which is widely associated with authority and power. The local and global effects of Darya's code-switch both contribute to the forcefulness of Darya's request to be allowed to cooperate in Sara's business investment. A dual-level approach can, therefore, provide a richer understanding of a speaker's motivation for code-switching.

2.4.5 Bivalency, code-switching and borrowing

The abovementioned frameworks for the analysis of multilingual talk in interaction phenomena (2.4.2, 2.4.3 and 2.4.4) are all based on the assumption that individual words contained in speakers' multilingual utterances can be attributed to separate languages. Woolard (1999), however, questions the possibility of assigning linguistic structures to separate languages and proposes a different classification of bilingual interaction phenomena based on the Bakhtinian concept of 'simultaneity'. According to Woolard (1999: 4), Bakhtin does not regard language forms as 'a mere wavering between two mutually exclusive possibilities but as a real simultaneity of contrasting elements in tension'. Bakhtin's concept of simultaneity casts doubts on the possibility of clearly demarcating separate codes in multilingual utterances and Woolard (1999: 5) urges analysts to view linguistic structures as 'fluid' and mutually inclusive. In reaction to these criticisms concerning the existence of separate identifiable linguistic codes, Woolard (1999) draws on the concept of bivalency, which can be defined as 'the use by a bilingual of words or segments that could "belong" equally, descriptively or even prescriptively to both codes' (Woolard, 1999: 5). Such bivalent forms and structures do not simply constitute a methodological inconvenience for the analyst but they should be regarded as a speaker's means to convey sociolinguistic meaning (Woolard, 1999: 8). By using bivalent structures and forms speakers can make it difficult for their interlocutors or audience to determine which language they are speaking. Woolard (1999: 7) provides the example of a Catalan comedian who was popular in the 1980s because people found it hard to tell whether he was speaking Catalan or Castilian. This comedian typically started his jokes with the phrase 'El saben aquel...' ('Do you know the one...'). The verb 'saben' constitutes an example of bivalency as it differs in the two languages only by the quality of the second vowel. While this vowel is a closed mid-front vowel /e/ in Castilian, it is reduced to a schwa in Catalan. Woolard (1999: 7) interprets the comedian's use of the verb 'saben' as bivalent as the vowel quality varied in different tokens uttered by the comedian, and it,

therefore, became difficult for the listener or analyst to assign specific tokens of 'saben' to either Castilian or Catalan. This strategic use of bivalency illustrates how speakers are able to project different identities simultaneously and the ways in which they ensure that they are not seen to commit fully to any particular linguistic code (Woolard, 1999: 10).

Woolard's notion of bivalency addresses a recurrent issue in bilingualism and multilingualism research, namely the difficult process of assigning individual words to separate languages (Angermeyer, 2006: 33). One of the most widely discussed classification problems is the distinction between code-switching and borrowing. Borrowing is often described as only applying to single words whereas code-switching is seen as a broader phenomenon (Gardner-Chloros, 2008: 60). The distinction between borrowing and code-switching is, however, far more complex. Loan words are frequently identified through two criteria. First of all, loans are often seen to fill a lexical gap in the borrowing language (Gardner-Chloros, 2008: 60). This type of loan is also referred to as a 'cultural loan'. Cultural loans occur when speakers are faced with a need to express a notion in one language which has no equivalent in another language such as in the case of the Spanish word 'paella' which has been taken over by English (Gardner-Chloros, 2008: 61). Borrowing can also consist of 'core loans' which are lexical items that could be expressed by a native term in the borrowing language (Gardner-Chloros, 2008: 61). The existence of core loans, therefore, weakens the definition of borrowing as a means to fill a lexical gap. A further criterion for the identification of loans and code-switches is represented by the assumption that loans are phonologically and morphologically integrated into the surrounding language, whereas the form of code-switched items does not assimilate to the surrounding language (Gardner-Chloros, 2008: 60). This principle is also characterised by shortcomings as, for example, English speakers say 'phenomena' and not 'phenomenons'. This example presents the case of a loan word which is not morphologically integrated into the borrowing language. However, in the case of Luxembourgish, French and German loan words largely undergo

morphological and phonological integration into the surrounding language; therefore, this criterion will be extensively used when assigning individual words to different languages.

In addition to the abovementioned criteria for the distinction between borrowings and code-switches, researchers can obtain additional information by closely examining the context in which the data were collected. Gardner-Chloros (2008: 60) concludes that 'it is the nature of the sociolinguistic contact which prevails at the time when an element is switched or borrowed which determines in what manner it is adapted or altered'. The controlled nature of the classroom context in which the data for this project were collected facilitated the process of coding individual words as either borrowings or single-word code-switches. In fact, single-word code-switches into French or German largely occurred when speakers referred to aspects of written text (printed in either French or German in textbooks) in a Luxembourgish utterance. These were typically not morphologically and/or phonologically integrated. Borrowings, on the other hand, typically consisted of subject-related terminology that was regularly employed in the classroom discourse and had, therefore, been assimilated into Luxembourgish.

The importance of considering context in the investigation of code-switches and borrowings is also emphasised in Grosjean's (1998: 136) monolingual-bilingual mode continuum. The 'mode', defined as 'the state of activation of the bilingual's languages', can be influenced by the topic, the situation, the bilingual speaker's interlocutor etc. (Grosjean, 1998: 136). At the monolingual end of the continuum, bilinguals only interact with monolinguals of one or the other of the languages they know. Code-switching and borrowing typically occur at the bilingual end of the continuum, i.e. when a bilingual is interacting with a speaker who shares the same two languages. While both languages are activated at this end of the continuum, language A is typically slightly more active than language B. Due to its higher level of activation, language A functions as the base language. Language B, on the other hand, is employed in the form of code-switches and

borrowings. However, the monolingual-bilingual mode continuum is fluid in nature, and speakers can position themselves anywhere between the monolingual and bilingual extremes of the continuum. As outlined above, all the data analysed for the purposes of this study were collected in a controlled environment (i.e. classroom situation) where all speakers shared the same languages. As a simple change of topic or situation can lead to a change of base language (Grosjean, 1998: 137), the context and topic of the interaction must be carefully examined during the categorisation of code-switches and borrowings.

The process of assigning individual words to different languages does not pose a major problem in the research reported in this thesis. Luxembourgish words can be easily distinguished from French words as the two languages are linguistically fairly distant. French borrowings clearly differ from single-word code-switches into French, as they are morphologically and phonologically integrated into Luxembourgish. Due to the linguistic proximity between Luxembourgish and German, clearly identifying words as either Luxembourgish or German is slightly more ambiguous. In an attempt to address this difficulty, any ambiguous words were not assigned to a specific language but were coded as ‘undecided’ in the quantification of students’ and teachers’ language choice.

2.4.6 Bilingual speech accommodation

The various frameworks for the analysis of multilingual speech outlined above have several advantages and disadvantages. Whereas Myers-Scotton’s Markedness Model takes into consideration the effect of the speaker’s beliefs and personal motivations on their multilingual language behaviour, Auer’s CA approach focuses primarily on the interactive nature of multilingual talk in a local context. Hamers and Blanc (2000: 251) draw attention to the importance of ‘linking speech style and its modifications to social psychological processes, like cultural identity, attitudes and social perceptions, and intercultural relations’. Speech Accommodation Theory constitutes a theoretical framework for the

analysis of language behaviour in interactional situations which allows the researcher to combine socio-psychological and local interactive factors in the same analysis. Giles *et al.* (1991: 2) describe Speech Accommodation Theory as being unique in its ‘openness to micro and macro contextual communicative concerns within a single theoretical and interpretive frame’.

Convergence emerges as the most widely researched aspect of accommodation (Sachdev & Giles, 2004: 355) and it can be defined as the speaker’s attempt to approximate their speech style to that of their addressee (Bell, 1984: 162). Sachdev and Giles (2004: 356) largely link convergence to a speaker’s ‘desire to gain approval from a recipient’ and explain that this motivation can be connected to the concept of ‘similarity attraction’ (Byrne, 1969). Similarity attraction is based upon the idea that the more similar a speaker is to their interlocutor the more benefits and rewards will emerge out of the interaction for the speaker. However, this concept may not be the only mechanism underlying linguistic convergence. Delvaux and Soquet (2007: 2) argue that ‘unintentional imitation is one of the major processes by which adult humans smooth social interactions’ and they demonstrate in two experiments that speakers automatically and unintentionally imitate the speech which directly surrounds them. Delvaux and Soquet’s (2007: 2) claims are based on two small-scale experiments designed to investigate the effects of ambient speech on speakers’ individual speech productions. Speakers of two regiolects of Belgium took part in the experiments and were found to adjust their realisations of vowels to ambient speech produced through loudspeakers. The findings reported in this study must be interpreted with caution as they were obtained under experimental conditions which do not necessarily mirror real-life interactions between speakers. In addition, the limited sample employed by Delvaux and Soquet reduces the weight of their claims regarding the automaticity of convergence. While linguistic convergence does not necessarily originate from a speaker’s conscious attempt to adjust their speech style to that of their interlocutor, its automatic nature also remains debatable.

Speakers who automatically converge most of the time still diverge from the speech of their interlocutors under certain circumstances. The co-existence of convergence and divergence is possible as they are not mutually exclusive linguistic phenomena. If convergence is potentially automatic and unintentional in nature, it is important to address the reasons why speakers diverge from or do not converge to the speech of their interlocutors under certain circumstances.

Divergence occurs when speakers emphasise differences between themselves and others (Giles *et al.*, 1991: 8). Bell (1984: 185) describes divergence as an ‘initiative shift’ signalling a speaker’s reaction against his/her interlocutor. Sachdev and Giles (2004: 356) provide the example of the linguistically divergent behaviour of customers in a Welsh pub who all switched from English to Welsh when a monolingual English-speaker entered the room. Linguistic divergence can consist of a technique enabling speakers to maintain integrity or to create distance between themselves and their interlocutors (Giles *et al.*, 1991: 10). A further type of linguistic divergence, termed ‘disaccommodation’ by Scotton (1985), can occur if a speaker switches style or code when repeating something which their interlocutor has just said. Giles *et al.* (1991: 10) illustrate disaccommodation through the example of a young speaker saying to an older interlocutor, “Okay mate let’s get it together at my place around 3:30 tomorrow,” and receiving the following reply from the older addressee: “Fine young man, we’ll meet again, at 15:30, at your house tomorrow.” During this interaction, the older speaker distances himself/herself from his/her interlocutor by repeating the younger speaker’s utterance in his/her preferred style.

A further important distinction in Speech Accommodation consists of whether the switch is upward or downward (Sachdev & Giles, 2004; Giles, Coupland & Coupland, 1991). Whereas the former consists of a shift towards a prestigious variety, the latter refers to socially stigmatised or less valued varieties. A French Canadian worker’s linguistic accommodation to the prestige language behaviour of an English-speaking manager represents an example of upward convergence

(Sachdev & Giles, 2004: 356). This example also draws attention to the ‘power variable’ which is based upon the concept that speakers in lower positions of power are more likely to modify their speech so that it resembles that of their superior interlocutors (Sachdev & Giles, 2004; Giles *et al.*, 1991). In fact, Hamers (1991, personal communication in Giles *et al.*, 1991: 19) reports findings that show that in a bilingual industrial setting in Quebec employees consistently converged more extensively to their superiors than to their subordinates.

Speech Accommodation Theory has heavily influenced multilingual talk in interaction research. Its focus on both language behaviour in context and the speakers’ personal attributes, attitudes and motivations enables the researcher to gain a better understanding of the reasons for the use of more than one language in a single interaction. However, due to the automaticity of convergence it can be extremely difficult for the analyst to reveal with certainty whether a speaker has intentionally or automatically adjusted his/her language use to that of his/her interlocutor.

2.4.7 Classroom code-switching

To address the educational focus of this thesis, this chapter will now turn towards a review of code-switching research in educational contexts. Research carried out in a vast array of linguistic contexts and types of classrooms (e.g. primary, secondary, tertiary education) has established classroom code-switching as a communicative asset as it fulfils numerous pragmatic functions (Ferguson, 2003: 38). The symbolic and sequential approaches to code-switching (outlined above) have considerably influenced the various frameworks adopted in the analysis of classroom code-switching. A discussion concerning the ways in which sequential and symbolic approaches have been integrated into classroom code-switching research will be provided below and particular attention will be drawn to the specific pragmatic functions which have been attributed to the use of multiple languages in classroom interactions.

In their study of advanced learners of German at an English-speaking university in Canada, Liebscher and Dailey O’Cain (2005: 236) adopt a CA approach to classroom code-switching enabling them to analyse the sequential development of multilingual interactions of students and teachers. As previously outlined, a sequential analysis of code-switching is typically preoccupied with detecting the ways in which speakers locally convey meaning by juxtaposing different languages in conversation without taking into account the social evaluations associated with the various languages or various factors related to speaker identity (e.g. age, gender, attitudes etc.) (2.4.4). Liebscher and Dailey O’Cain (2005: 239) specifically focus on the ways in which learners and teachers attempt to structure their interactions through code-switching behaviour on a local level and they reveal the following pragmatic functions of classroom code-switching: thinking aloud, setting off an aside, shifting topic, attracting attention. These functions were revealed in a micro-analysis of classroom interactions without drawing on any external speaker characteristics and they can collectively be described as a signalling device helping speakers to add emphasis to their utterances and listeners to correctly interpret the intended meaning. Üstünel and Seedhouse (2005) adopt a similar approach in their investigation of code-switching in a Turkish EFL setting. In a qualitative analysis of the sequential environment of teachers’ code-switches into Turkish, Üstünel and Seedhouse (2005: 322) reveal several pragmatic functions of classroom code-switching such as giving feedback, checking comprehension, dealing with classroom discipline, providing translations etc. All of these functions are intricately linked to the context in which they appear and are not related to the social evaluations of the various languages or the speakers’ language attitudes.

The various symbolic approaches to language alternation phenomena (2.4.2 and 2.4.3) have, however, also had an impact on classroom code-switching research. Ferguson (2003: 39) argues that a more comprehensive understanding of code-switching behaviour in educational contexts can be reached by complementing the

sequential analysis of multilingual classroom discourse with a consideration of the wider sociolinguistic context as speakers' language attitudes are likely to have an impact on language behaviour inside the classroom.

McGlynn and Martin (2009: 137) report findings from a study of classroom code-switching in the Republic of The Gambia. While the school chosen for their study is governed by a strict 'no vernacular' policy, the teacher is shown to occasionally code-switch into the local languages, Mandinka and Wolof, to achieve a communicative effect. Code-switches into the vernacular are described as attempts by the teacher to reduce the level of formality and to establish himself as a member of the local community as opposed to a teacher in a higher position of power. By occasionally switching to Wolof or Mandinka, the teacher aligns himself with the pupils and their native languages. Switches into Wolof and Mandinka typically co-occur with discussions of local and cultural concepts and McGlynn and Martin (2009: 146) argue that this strategy enables the teacher to gain the pupils' attention and trust. Similarly, Probyn (2009) in South Africa and Raschka et al. (2009: 161) in Taiwan demonstrate how teachers code-switch during classroom interactions to signal friendship, solidarity and to build rapport with students. While none of these studies disregard the sequential environment in which code-switching occurs, they take into account the social evaluations of the various languages used in classroom interactions. In other words, teachers code-switch into the vernacular or home languages of the students as these are widely associated with informality and thus teachers are able to improve their relationships with students and to achieve temporary goals such as gaining students' trust (McGlynn & Martin, 2009: 145).

The discussion of the abovementioned studies shows that multiple functions of classroom code-switching have been established in a vast array of linguistic contexts across the world. Both sequential and symbolic analyses have led to the identification of the various functions. Ferguson (2003: 39) calls attention to the fact that considerable overlap exists between the functions of classroom code-

switching which have been revealed in different studies. Similar functions are often given different labels by different authors and in an attempt to increase comparability between code-switching studies carried out in different linguistic contexts across the world Ferguson (2003: 39) proposes the following broad categorisation of functions:

- Code-switching for curriculum access
- Code-switching for management of classroom discourse
- Code-switching for interpersonal relations

Code-switching for curriculum access centres around the transmission of curriculum content and is intended to help students understand subject matter and to facilitate participation in classroom activities. In addition to providing students with help in understanding and participating in learning activities, teachers code-switch for classroom management purposes. Code-switches fulfilling management functions consist of motivating, disciplining and praising students and/or signalling a shift of topic towards any ‘off-lesson’ concern (Ferguson, 2003: 42). Finally, in multilingual classrooms code-switching is frequently employed to build interpersonal relationships. This can help teachers to project different identities and to appear more human to students by, for example, telling jokes in the students’ native language. Ferguson’s three-fold categorisation of classroom code-switching functions encompasses both functions identified through sequential and symbolic approaches to language alternation. While topic shift or clarification functions, for example, are intricately linked to the context in which they appear, code-switches fulfilling interpersonal relationships functions often exploit the social evaluations attached to the various languages used in a given classroom interaction. The pragmatic analysis of teachers (Chapter 5) and students’ (Chapter 6) code-switching behaviour presented in this thesis will extensively exemplify several functions of classroom code-switching which are categorised under the three umbrella functions proposed by Ferguson.

2.4.8 Summary

The code-switching literature provides a wealth of studies and offers many insights into various theoretical frameworks. Different aspects of the symbolic and sequential approaches to language alternation phenomena (outlined above) have influenced code-switching research in educational contexts. The institutional nature of classrooms provides researchers with extensive control over several factors that may affect speakers' multilingual language behaviour (e.g. number of speakers involved, topic, power relations between students and teachers). Ferguson's threefold categorisation of classroom code-switching for curriculum access, for the management of classroom discourse and for interpersonal relations emerges as a particularly useful framework for the analysis of multilingual classroom behaviour. The use of this framework not only enhances comparability between classroom code-switching studies carried out in different linguistic contexts, but it also enables the analyst to reveal the ways in which teachers and learners construct meanings locally (i.e. by code-switching in order to structure classroom discourse) and socially (i.e. by making use of the social evaluations of languages and by projecting language attitudes).

While academic researchers largely attribute a high degree of functionality to classroom code-switching and describe it as a communicative resource, educational authorities in many countries remain suspicious of the use of multiple languages in classroom interactions (Ferguson, 2009: 233). As previously outlined (2.3.5), the success of language planning activities is heavily dependent on the policy makers' awareness of the attitudes of those who are directly affected by the language policies. As the domain of education is governed by official language policies in many countries, classroom code-switching research becomes closely related to language planning and policy activities. The common mismatch between academic research findings drawing positive attention to classroom code-switching and the continuing ban of code-switching by many education

authorities calls for a review of the various bilingual and multilingual education models that are currently in place in different contexts across the world.

2.5 Educational and political aspects

2.5.1 Bilingualism and bilingual education

Languages play an important role in schools, both as taught subjects and media of instruction. Schools can actively increase or decrease the status of a language in society by awarding different amounts of time to the use and teaching of individual languages (Skutnabb-Kangas, 2000: 500). While schools often stigmatise regional, minority or lesser-used languages, they continue to promote valued forms of bilingualism in major European languages through foreign language teaching (Martin-Jones, 2007: 175). Policy makers are typically faced with the need to make vital decisions regarding which languages will be included in the curriculum as foreign languages and which languages will be employed as media of instruction and communication in schools. Multilingual settings and communities offer particularly interesting contexts for the evaluation of the role of language in education. The following sections will explore the benefits and shortcomings of the various types of bilingual education from an educational, sociolinguistic and language planning perspective.

Definitions of bilingualism are often highly complex and in disagreement with each other (Baker, 1988: 2). A distinction is commonly made between ‘additive bilingualism’ and ‘subtractive bilingualism’ (De Mejía, 2002: 40). Additive bilingualism occurs in cases where a speaker acquires a second language ‘without detracting from the maintenance or development of his or her first language’. The acquisition of the second language is, therefore, considered a positive addition to the linguistic repertoire of the speaker. Subtractive bilingualism, on the other hand, is characterised by a gradual replacement of a speaker’s first language by the newly acquired, often more powerful, language. Determining which speakers

can be classified as ‘bilinguals’ and which speakers remain ‘monolinguals’ is highly complex. Bilinguals are rarely equally proficient in both languages and they typically employ different languages for different purposes and in different contexts (Baker, 2001: 9). Therefore, a bilingual’s English language competence does not necessarily equal that of a native monolingual English speaker (Baker, 2001: 9).

Different kinds of bilingualism give rise to different types of bilingual speakers such as ‘elective’ and ‘circumstantial’ bilinguals (Baker, 2001: 3). While the former group is mainly represented by majority language speakers, who voluntarily opt to learn a second language at school, the latter often consists of immigrants who, in addition to their native language, are forced to acquire the language(s) of their host country. Two contradictory perspectives on the nature of bilinguals persist. On the one hand, a factional view defines bilinguals as a combination of two monolinguals in one person. A holistic perspective, on the other hand, rejects the conception of bilinguals as the sum of two monolinguals and describes them as having a unified and ‘unique linguistic profile’. Baker (2001: 9) strongly argues in favour of an interpretation of bilinguals as a ‘complete linguistic entity’ or ‘an integrated whole’. The debate concerning the nature of bilinguals has important implications for bilingual education. Different bilingual education programmes exist in various linguistic contexts across the world and they will be discussed in more detail in sections 2.5.3, 2.5.4 and 2.5.5.

The various bilingual education models discussed throughout section 2.5 do not approach bilingual or multilingual communities from a holistic perspective. In other words, clear distinctions are made between different languages which are used in the same multilingual community. For example, reference will be made to speakers of Spanish and speakers of English in the context of the USA. Therefore, the outlined bilingual education models may not apply to communities that are multilingual to a higher or more holistic level, i.e. contexts in which education is not employed as a tool to ‘add’ another language to the linguistic repertoire of the

community. Luxembourg, however, constitutes a context in which the education system actively seeks to develop multilingualism in its population and Luxembourg's citizens cannot be described as inherently and holistically multilingual. These claims will be explored with reference to empirical data in chapters 4 and 6. Consequently, several aspects of the bilingual education models described in section 2.5 are directly applicable to Luxembourg's education system.

2.5.2 Separation vs. concurrent approaches to bilingual education

The persistence of both factional and holistic perspectives of bilinguals can influence the orientation of bilingual education programmes and is reflected in the disagreement between separation and concurrent approaches in bilingual education models. Numerous bilingual education programmes are based on a 'strong preference for the construction of parallel, monolingual spaces of learning, with strict monitoring of those spaces for their monolingualism' (Martin-Jones, 2007: 165). Such a separation approach is based on the assumption that the strict separation of languages facilitates the learning processes for children (Jacobson, 1990: 4). Languages can be separated according to topic, person, time and place. The first separation criterion consists of teaching different parts of the curriculum through different languages. Alternatively, different languages can be employed as media of instruction on different days of the week or at different times of the day. Physical criteria can also be applied in cases where different teachers make use of different languages. Similarly, language use can be separated spatially by assigning different languages to separate areas of the school grounds (Jacobson, 1990: 5-6). Consequently, language separation approaches are based on factional views of bilingualism; this perspective has also been termed 'bilingualism through monolingualism' (Martin-Jones, 2007: 165).

Bilingual education models are, however, not solely influenced by language separation approaches. The concurrent approach to bilingual education allows the

use of multiple languages in the same classroom (Jacobson, 1990: 6) and is therefore closely related to classroom code-switching research. In schools which advocate a concurrent approach to bilingual education classroom code-switching becomes an integral part of interactions among students and teachers (Martin-Jones, 2007: 165). The concurrent use of multiple languages in a classroom can be characterised by different degrees of structure (Jacobson, 1990: 6). Teachers can, for example, switch between two languages in a largely unstructured way. On the other hand, alternation between two languages can occur systematically; for example, teachers can say everything in both English and the children's vernacular. A more frequent type of concurrent language use consists of previewing lesson content in the child's mother tongue before teaching it in depth in the official medium of instruction, or vice versa (Jacobson, 1990: 6). Jacobson (1990: 7) proposes the 'New Concurrent Approach' which consists of a highly structured concurrent approach to bilingual classroom discourse. The New Concurrent Approach is characterised by a purposeful use of language alternation which 'does not encourage the child to tune out whilst his/her weaker language is spoken'. Classroom code-switching, resulting from a concurrent approach, fulfils numerous functions such as explanations, paraphrases, reformulations and the introduction of 'different voices in the classroom arena' (De Mejía, 2002: 76).

Both separation and concurrent approaches exist under various forms in educational settings across the world. Elements from both approaches constitute the basis for the various bilingual education models which will be discussed in sections 2.5.4 and 2.5.5. Disagreements regarding the benefits and shortcomings of the different approaches frequently exist between educationalists and sociolinguists (De Mejía, 2002: 76). Whereas educationalists often express their agreement with separation approaches, sociolinguists favour concurrent approaches. De Mejía (2002: 76) argues that from a sociolinguistic perspective 'the direct application of general educational and linguistic principles to decisions involving classroom language use, without taking into account key aspects of the sociocultural, economic and political context of implementation, is insufficient to

ensure an appropriate language development in specific bilingual classrooms'. This emphasis on taking into account the wider social context is also reflected in Jacobson's (1990: 6) description of the artificiality of the separation approaches. In fact, in everyday life language use is not strictly determined by time, space, person and topic; consequently schools, employing a language separation approach do not reflect language use in its wider social context. Similarly, Jacobson (1990: 6) explains that although language separation can be easily controlled in an educational context, it is 'uncontrollable within the mind'. This argument undoubtedly supports the view of bilinguals as an integrated whole rather than the sum of two separate monolinguals in one person. Interestingly, the language separation approach has also received positive attention from sociolinguists (Baker, 2001: 275). The desire to assign different languages to different contexts can be related to the frequent argument in sociolinguistic research that 'for a minority language to survive, it must have separate and distinct uses in society' (Baker, 2001: 275). The existence of two contradictory approaches to language use in education as well as the disagreements among sociolinguists and educationalists have given rise to various bilingual education programmes which will be reviewed in the following section.

2.5.3 Bilingual education programmes

Bilingual education programmes can promote different levels of bilingualism among students. Freeman (2004: 42) argues that 'part of the confusion about bilingual education is that the same term is actually used to refer to a wide range of programs that may have different ideological orientations toward linguistic and cultural diversity, different target populations, and different goals for those target populations'. A distinction is commonly made between non-forms, weak forms and strong forms of bilingual education (Skutnabb-Kangas, 2000: 579). Non-forms of bilingual education are characterised by the absence of two languages of instruction and minority language children, enrolled in these programmes, are only able to maintain their mother tongue due to extensive efforts made by their

families and the wider linguistic community (Skutnabb-Kangas, 2000: 579). Weak forms of bilingual education, on the other hand, employ two different media of instruction. However, they strongly advocate monolingualism or at least a strong dominance of the majority language. Finally, Skutnabb-Kangas (2000: 580) explains that strong forms of bi- and multilingual education ‘promote (high levels of) multilingualism (or, minimally, bilingualism) and multiliteracy for all participants in the programme, regardless of whether these represent linguistic minorities or majorities’. The various educational programmes which fall into these categories will be critically evaluated in the following sections (2.5.4 and 2.5.5).

2.5.4 Weak forms of bilingual education

Submersion represents a particularly common weak form of bilingual education; this programme is also frequently described as the ‘sink-or-swim’ model (Skutnabb-Kangas, 2000: 582). Baker (2001: 195) explains that ‘submersion contains the idea of a student thrown into the deep end and expected to learn to swim as quickly as possible without the help of floats or special swimming lessons’. Submersion creates a subtractive language learning environment due to the programme’s neglect of the minority student’s mother tongue and the insistence on the use and the importance of the majority language (Skutnabb-Kangas, 2000: 582). In the USA, for example, submersion consists of teaching Spanish native speakers through the medium of English alongside native English speakers and in the presence of a monolingual English-speaking teacher (Baker, 2001: 195). An alternative form of submersion education can consist of teaching ‘powerless majority children’ through the medium of a foreign, often powerful, language. In such cases submersion education conveys the idea that the language of instruction is superior to the mother tongues of the children (Skutnabb-Kangas, 2000: 583). This type of submersion education is often found in post-colonial contexts where mother tongue-medium education still does not exist (Skutnabb-Kangas, 2000: 583). Stress, alienation, disaffection and lack of self-confidence

among minority students are frequent outcomes of submersion education (Camilleri, 1993: 16). These negative consequences are due to the extremely high demands which occur in a learning environment where children are constantly under the dual pressure of having to learn curriculum content and acquire a new language simultaneously. Submersion education typically affects circumstantial bilinguals, or immigrant children, who are faced with the need to acquire the high status language of their host country. This scenario often results in 'subtractive bilingualism' (2.5.1) where the minority language is lost in favour of the majority language.

The Segregation Model consists of a reversal of submersion education (Skutnabb-Kangas, 2000: 591). Children, enrolled in this weak form of bilingual education, are taught solely through the medium of their mother tongue in classrooms and are isolated from majority language speakers. Students rarely successfully acquire the majority language in addition to their mother tongue. Schools that follow the segregation model often have very limited resources in comparison to the mainstream majority language school (Skutnabb-Kangas, 2000: 591). The segregation model emerges as a weak form of bilingual education despite its positive attention to the minority language. This is due to the total neglect of the majority language and the inequality of chances which is created for minority language students.

Transitional Bilingual Education (TBE) represents a further weak form of bilingual education (Baker, 2001: 192). TBE allows minority language children to be taught through their mother tongue until they are deemed sufficiently competent in the majority language to be incorporated into mainstream monolingual classrooms (Baker, 2001: 198). Minority children, enrolled in 'Early-exit' TBE programmes, are transferred to the mainstream classroom after having been taught through the medium of their mother tongue for one to three years. 'Late-exit' programmes, on the other hand, allow children to receive the first six years of their education through the medium of their native language

(Skutnabb-Kangas, 2000: 593). De Mejía (2002: 43) argues that this type of bilingual education aims at ‘language shift, cultural assimilation and social incorporation’. In TBE the mother tongue is regarded as having only a temporary instrumental value (Skutnabb-Kangas, 2000: 593). It is valued only for a limited period of time when it is needed to overcome issues of communication and comprehension. Baker (1988: 46) explains that transitional models exist in the USA as well as Europe ‘where language “deficiencies” of minority group children are “cured” so they can contribute to be educated in English or another majority language’. The most widely funded form of bilingual education in the United States consists of TBE (Freeman, 2004: 43). The ultimate aim of TBE consists of assimilation and it, therefore, promotes subtractive bilingualism.

All weak forms of bilingual education foster subtractive bilingualism. Camilleri (1993: 34) claims that ‘effective bilingual education is neither a simple nor an automatic consequence of using a child’s home language in school’. Despite the fact that submersion, segregation and transitional programmes constitute forms of bilingual education due to their use of two or more languages of instruction, they all fail to promote additive bilingualism. Other forms of bilingual education, however, successfully maintain and develop minority and majority languages and they will be discussed in the following section (2.5.5)

2.5.5 Strong forms of bilingual education

Education programmes which promote minority languages are often described as highly valuable in nature but practically impossible to realise (Skutnabb-Kangas, 2000: 600). Strong forms of bilingual education fostering additive bilingualism, however, exist in various educational programmes across the world. Immersion programmes represent one of the most widely spread and most successful forms of strong bilingual education (Baker, 2001: 208). Skutnabb-Kangas (2000: 614) defines immersion education as

A programme where linguistic majority children with a high-status mother tongue voluntarily choose (among existing alternatives) to be instructed through the medium of a foreign (minority) language, in classes with majority children with the same mother tongue only where the teacher is bilingual so that the children can at the beginning use their own language, and where their mother tongue is in no danger of not developing or of being replaced by the language of instruction - an *additive* language learning situation.

Different variations of immersion programmes exist. Children enrolled in early immersion programmes are taught through a foreign language from the very beginning of their education at kindergarten level. Delayed immersion, on the other hand, usually starts at some point in elementary school (Freeman, 2004: 45). A further distinction can be established between total and partial immersion. The former variant consists of teaching 100 percent of the curriculum through the medium of a foreign language, whereas in the latter variant a foreign language of instruction is employed in 50 to 90 percent of all school lessons (Freeman, 2004: 45). Evaluations of immersion programmes have shown that initially, children's mother tongue competence is lower than that of non-immersion pupils. By grade 5 at the latest, however, immersion children have caught up and no significant difference in mother tongue competence can be detected (Skutnabb-Kangas, 2000: 616).

French immersion programmes were first implemented among English-native speakers in Canada and variations of this form of bilingual education have been applied to various linguistic contexts around the world, such as, for example, Spain, Finland, Australia and the UK (Baker, 2001: 208). Immersion programmes can be classified as a strong form of bilingual education due to their encouragement of additive bilingualism. Skutnabb-Kangas (2000: 612) claims that immersion programmes are 'the only educational programmes where bilingualism for majorities has been achieved on a really large scale'. Despite its

highly positive outcomes, immersion education has some drawbacks, such as the fact that a high proportion of immersion students do not employ the foreign language which they have successfully acquired at school outside the educational sphere. In fact, Baker (2001: 233) claims that ‘potential does not necessarily lead to production’ and that ‘skill does not ensure street speech’. This type of bilingual education, however, promotes both majority and minority languages and aims at multilingualism and multiliteracy.

A further strong form of bilingual education is represented by ‘Dual language’ or ‘Two-way bilingual’ models. This educational programme is opposed to transitional bilingual education due to its perspective of language as a resource rather than a problem (Freeman, 2004: 44). In dual language or two-way bilingual programmes, approximately equal numbers of majority and minority students are taught in the same classroom by a completely bilingual teacher (Skutnabb-Kangas, 2000: 618). Both languages are employed as media of instruction with the aim of creating a balanced type of bilingualism among pupils (Baker, 2001: 212). Skutnabb-Kangas (2000: 618) argues that ‘two way models thus combine in one classroom a maintenance model for minorities [...] and an immersion model for the majority while maximizing peer-group contact in the other language for both groups’. The promotion of additive bilingualism among both minority and majority students in the same classroom undoubtedly increases the strength of this model.

Additive bilingualism is also promoted in ‘Heritage Language Education’ or ‘Development maintenance’ bilingual education. This bilingual education programme offers minority language children instruction in their home, native or heritage language. The majority language is included in the curriculum and is taught as a foreign language. Classes typically consist of children originating from the same linguistic community. The aim of Heritage Language Education consists of creating full bilingualism among minority language children (Skutnabb-Kangas, 2000: 601; Baker, 2001: 209). This form of bilingual

education is also frequently referred to as ‘one-way developmental bilingual education (DBE) programs’ (Freeman, 2004: 46); this term is employed due to the focus of this programme on one target group only, as opposed to the focus of ‘Two-way bilingual’ or ‘Dual language’ models on minority and majority children. Heritage Language Education programmes also bear similarities to Segregation Models; in fact, both models only include children originating from the same minority language communities in the same classroom. Unlike Segregation Models, however, Heritage Language Education highly values the teaching of the majority language and, therefore, aims to create full and additive bilingualism. Furthermore, Wright and Bougie (2007: 168) explain that ‘these programs will have positive impacts not only in terms of minority-language children’s academic achievement but also in terms of their psychological sense of self’. Baker (2001: 238) supports this claim and highlights that school performance does not decrease among Heritage Language Education children. The psychological benefits of this form of bilingual education result from the valorisation of the children’s mother tongue at school, which can positively influence their sense of cultural identity and self-esteem (Baker, 2001: 238). When testing majority language competence among pupils enrolled in Heritage Language Education, they perform at least as successfully as their peers from mainstream monolingual schools (Baker, 2001: 239). Baker (2001: 239) concludes that ‘the explanation seems to lie in self-esteem being enhanced, and language and intellectual skills better promoted by education in the home language’.

Mother tongue education emerges as the goal of all strong forms of bilingual education. Weak models such as submersion, transitional and segregation programmes, on the other hand, aim at linguistic assimilation and strongly support the teaching and use of majority languages. Describing immersion, dual language and heritage language programmes as ‘strong’ models of bilingual education highlights the clear preference for and valorisation of these models in educational and sociolinguistic research. However, the persistence of submersion, transitional

and segregation programmes in various contexts across the world demonstrates that educationalists and linguists are not the only actors in the decision-making processes concerning the role of language in education.

Luxembourg's current education system contains elements of both strong and weak forms of bilingual education models. Baker (2001: 221-222) describes Luxembourg's education system as 'bilingual education in majority languages' which is based on the combined use of two (or more) majority languages in a school and he defines it as a strong form of bilingual education. However, current educational policies in Luxembourg are also characterised by elements of submersion due to the use of major European languages (French and German) as languages of instruction and the exclusion of Luxembourg's regional/heritage language (Luxembourgish). The analyses of students' language attitudes and multilingual classroom interactions will provide evidence for this claim.

2.5.6 Political aspects of the role of language in education

The different bilingual education programmes represent the outcomes of conscious decisions about the inclusion of certain languages and the exclusion of others in educational curricula. Media of instruction policies are frequently influenced as much by political agendas as by educational goals (Ferguson, 2006: 179). Tsui and Tollefson (2004: 2) claim that 'medium-of-instruction policy determines which social and linguistic groups have access to political and economic opportunities, and which groups are disenfranchised'. These arguments draw attention to the role of language planning and language policy (LPLP) activities in bilingual education. An overview of LPLP both as an academic research discipline and a field of political activity can throw light onto the origins of the various forms of bilingual education as well as demonstrate the broader role that language assumes in education.

2.5.7 Language Policy and Language Planning (LPLP)

LPLP is often associated with nationalist ideologies and linguistically homogeneous societies (Wright, 2007: 164). The linguistic consequences of nationalism consist of establishing the dominant ethnic group's native language as the national language of a country (Millar, 2005). Wright (2007: 164) notes that in such cases 'to be a 'nation', a group felt it had to be both cohesive and distinct' and that 'a single "national" language could demonstrate this'. This claim clearly illustrates the close connection between traditional LPLP activities and nineteenth century nationalist ideologies, which typically promoted societal monolingualism. Interestingly, LPLP is still a growing academic discipline in the twenty-first century. However, government nationalist LPLP activities have been replaced by a more critical and less policy-driven research field (Wright, 2007: 167). Some theoretical foundations have, however, emerged from early LPLP activities; these ideas still underlie much LPLP research in the twenty-first century and they will be discussed in more detail below.

LPLP is split into 'corpus planning', 'status planning' and 'acquisition planning' (Wright 2007: 164; Cooper 1989). First of all, corpus planning focuses on the form and structure of a language. The corpus of a language can be defined as its lexis, structure and partly its phonology (Millar, 2005: 100). Corpus planning activities consist, for example, of creating and standardising a written form of a spoken language. Development of terminology for new technological advances represents a further domain of activity for corpus planners (Wright, 2007: 165). Status planning, on the other hand, can be defined as 'the decision to confirm a language in its functions and its domains or to introduce a new language into these functions and domains' (Cooper, 1989: 1). By establishing a particular language as the 'national' or 'official' language of a country, language planners can considerably raise the importance and the status of this language. Thirdly, Cooper (1989: 1) defines acquisition planning as the implementation of status and corpus planning. Once the corpus of a language has been developed and its status

has been raised through official recognition, the target population must accept and 'acquire' these interventions. Corpus, status and acquisition planning hardly ever operate in isolation from each other (Millar, 2005:100). Moreover, Ferguson (2006: 191) challenges the viewpoint that corpus planning always represents the first step in LPLP activities. He claims that 'form tends to follow function' and that in order to fully develop linguistically, a language must be used in various functions. In other words, in some contexts LPLP activities must begin with status planning. Consequently, LPLP can be defined as a complex network of activities which operate both on the linguistic level (corpus planning) as well as the social and political levels (status planning and acquisition planning).

Most LPLP activities are initiated and led by state authorities or official planning bodies (Spolsky, 2004: 42). However, language planning can also be found in lower levels such as the family domain which often acts as a starting point for LPLP activities (Cooper, 1989: 38). In monolingual families, for example, language policy decisions can determine which lexical items are acceptable and can also affect language style. Statements such as 'Keep your street language away from the table' represent an instance of language style management at the family level (Spolsky, 2004: 43). LPLP activities within the family are more common in bilingual homes where, for example, parents must take a decision regarding the transmission or the abandonment of the heritage language when raising their children (Spolsky, 2004: 45). Consequently, the family environment constitutes the first level of language management and must, therefore, be regarded as a LPLP domain.

Extremely influential and far-reaching LPLP decisions are frequently taken on a higher level. Education emerges as one of the most crucial domains for LPLP (Ferguson, 2006: 33; Spolsky, 2004: 46). According to Ferguson (2006: 33), various reasons are behind this development:

Education in most countries is largely funded and thus controlled by the state; schools are one of the key agencies of socialisation; school pupils are a captive audience, and the curriculum affords the state unequalled opportunities to shape the attitudes and behaviours of the next generation.

Spolsky (2004: 46) draws attention to the fact that acquisition planning is also known as ‘language education policy’ and he argues that ‘when and where schools exist, they take over from the family the task of socialization, a central feature of which is developing the language competence of young people’. Consequently, the educational domain is an ideal context for language planners to influence linguistic behaviour, especially through activities related to acquisition planning. Formal education can influence language behaviour and language attitudes on two levels (Skutnabb-Kangas, 2000: 500). First of all, the inclusion or exclusion of particular languages at school as well as decisions whether specific languages are employed as media of instruction or taught as foreign languages can considerably influence the status of a language. Secondly, the ideological positions conveyed in classroom discourse can also have important consequences; in fact, which languages are mentioned or not mentioned at school as well as what is said about particular languages can have an important effect on children’s language attitudes and language behaviour (Skutnabb-Kangas, 2000: 500). Language in education policies therefore can be particularly effective due to their far-reaching influence and their focus on a young and captive audience.

Supra-national organisations such as the EU or the United Nations represent a further potential domain of activity for LPLP (Spolsky, 2004: 53). The Council of Europe can be regarded as a particularly active international language planning organisation. Their aims consist of ‘the protection and promotion of the wealth and diversity of Europe’s cultural heritage’ and they explicitly state that ‘regional or minority languages are very much part of this heritage’ (Council of Europe, 2008). The ‘European Charter for Regional or Minority Languages’ is an excellent example of LPLP intervention from a supra-national level (Council of

Europe, 1992). Interestingly, in this policy document education assumes a major role in the promotion and protection of regional and minority languages. The Council of Europe's focus on the role of education in LPLP can be observed in their development of a common framework for language teaching and their focus on creating 'plurilingual proficiency' among students through successful schooling (Spolsky, 2004: 55). The activities of the Council of Europe demonstrate the renewed interest in LPLP. Despite a move away from nationalist monolingual ideologies and their emphasis on multilingualism, Wright (2007: 170) highlights that the Charter for Regional or Minority Languages 'relies on traditional nation-building strategies, promoting the use of a language in relations between the citizen and state institutions and as the medium of education and the media to preserve or revitalize it'. These developments show that although the focus of LPLP has shifted from monolingualism to multilingualism in recent years, education remains one of the principal domains where language planners manage, and to some degree control, language use and language attitudes.

The maintenance of regional, minority, heritage and immigrant languages constitutes a major aim of LPLP in Europe. Studies of bilingualism and the development of bilingual education programmes are closely connected to LPLP activities. The linguistic and socio-political factors, discussed in the previous sections, considerably influence forms of bilingual education and are at the origin of various language-in-education policies in numerous contexts across the world.

2.5.8 Summary

The various processes underlying LPLP activities show that educational policies in multilingual contexts are influenced myriad factors. Bilingual education programmes which constitute idealised models from a sociolinguistic or educational perspective (i.e. strong forms of bilingual education) can be ignored or rejected due to political reasons. However, policy makers as well as teachers, students and parents can refrain from viewing linguistic diversity in schools as an

obstacle if they recognise that the values associated with certain languages are socially and culturally constructed and therefore not fixed (Hornberger & Skilton-Sylvester, 2000: 100). The continuing existence of both strong and weak forms of bilingual education models in various multilingual contexts across the world draws attention to the fact that tensions still exist between the guidelines emerging from applied sociolinguistic research and the realities of the classrooms.

2.6 Conclusion

In summary, this thesis bridges several fields of research such as sociolinguistics, social psychology and education. The combination of attitude and code-switching research allows for further insights to be gained into the complex relationship between attitudes and behaviour and can contribute to a better understanding of the role of socio-psychological processes in the production of language. By focusing on an educational context, this thesis also aims to provide insights into language use and language attitudes in a multilingual school which may help to inform future language in education policies in Luxembourg and in LPLP more broadly.

This chapter has set the sociolinguistic and theoretical context for a study of language attitudes and code-switching behaviour in Luxembourg's multilingual education system. This thesis will now turn to an outline of the research methodology adopted in this study and will provide details regarding the sampled population (Chapter 2). The subsequent chapters will report and interpret the findings of this research with respect to the various theoretical frameworks discussed above as well as language planning and policy decisions in Luxembourg.

3 Methodology

3.1 Introduction

This chapter provides a description of the various methods used in this study. Due to the dual focus on language attitudes and code-switching, the methodology consists of a combination of methods taken from several research fields. First of all, the theoretical foundations of the various methodological issues concerning attitude measurement are reviewed (3.2). Once an appropriate measurement scale for the attitudinal data has been chosen, details regarding the statistical analysis of the attitudinal data will be provided (3.3). This chapter will then turn towards a discussion of the data collection tools as well as a description of the sample of this study (3.4). Various ethical considerations will be addressed and the chapter will close with an overview of appropriate methods for the analysis of the recorded classroom interactions (3.6).

3.2 Attitude measurement

The complex nature of attitudes is at the origin of the development of various measurement techniques. Oppenheim (1992: 175) defines the measurement of attitudes as an attempt to ‘place a person’s attitude on the straight line or linear continuum in such a way that it can be described as mildly positive, strongly negative and so on’. This use of linearity allows the researcher to quantify abstract concepts such as attitudes. Fishbein’s (1967: 257) definition of attitudes as the evaluation of belief objects as favourable or unfavourable, positive or negative, could lead to a bipolar approach in attitude measurement. However, the use of a dichotomous approach for the investigation of complex psychological constructs such as attitudes risks creating an over-simplified picture (Peterson, 2000: 38). A full understanding of different types of attitude measurement techniques requires a review of the origins and theoretical foundations of measurement theory (3.2.1).

3.2.1 Theoretical foundations

The foundations of measurement theory as well as the development of tools for measuring psychological concepts such as attitudes originate from the work carried out in psychophysics. Stevens (1946: 677) writes that ‘measurement, in the broadest sense, is defined as the assignment of numerals to objects or events according to rule’. Measurement, therefore, consists of systematically allocating numbers to concepts such as heat. Temperature scales such as Celsius or Fahrenheit represent examples of a systematic assignment of numbers to a phenomenon. The following question underlies the development of measurement theory and measurement techniques: ‘Is it possible to measure the strength or magnitude of a sensation, or is sensation too personal and too intimately an affair of the mind to be quantified?’ (Stevens, 1975: 2). The measurement of sensation, or abstract concepts in general, poses a considerable challenge to researchers as these concepts are not concrete objects which can be directly aligned with a numerical measurement scale. Such sensations can be experienced through, for example, seeing, hearing, taste, smell and pain (Stevens, 1976: 2). The development of the ‘psychophysical law’ has made it possible to measure such concepts due to the discovery that ‘equal stimulus ratios produce equal sensation ratios’. If, for example, the brightness of a light is increased due to a higher influx of energy, a person’s sensation of brightness increases in accordance (Stevens, 1976: 16). The psychophysical law is based on the principle that whenever the stimulus or object under investigation increases, the intensity of the sensation increases accordingly (Stevens, 1976: 2). The possibility of quantifying these types of sensation has also enabled researchers to quantify concepts related to human judgement. Stevens (1976: 2) argues that the direct methods of psychophysical measurement have made it possible to scale a great variety of ‘subjective opinions’ such as, for example, opinions concerning the prestige of different occupations or the seriousness of various crimes.

3.2.2 Types of measurement scales

The definition of measurement as the systematic allocation of numbers to objects and the subsequent discovery that abstract concepts can be measured led to the development of different types of measurement. Measurement exists in a variety of forms and various types of scales have been developed (Stevens, 1946: 677). The different types of scales are labelled nominal, ordinal, interval and ratio (Stevens, 1946: 677).

On nominal scales numbers are merely used as names or labels. The numbers are chosen arbitrarily and no order or relation exists between the numbers (Hinton, 2004: 21). Stevens (1946: 678) describes the case of numbering football players as an example of 'nominal assignments'. Ordinal scales on the other hand are characterised by 'rank-ordering'. A typical example of an ordinal scale is the scale of hardness of minerals (Stevens, 1946: 679). Hinton (2004: 22) provides a further example of an ordinal scale when he uses numbers in order to rank four chess players according to their performance and explains that Susan (1) is the best chess player followed by Robert (2), Marie (3) and Peter (4). An ordinal scale of this type rank-orders the different objects but does not reveal anything about the relative distances between different points or objects. In other words, the analyst does not know whether the difference between 1 (Susan) and 2 (Robert) is the same as the difference between 3 (Marie) and 4 (Peter) (Hinton, 2004: 22). Bard *et al.* (1996: 39) conclude that 'an ordinal scale rank orders scale points but makes no commitment to any other kind of difference between them'.

Interval scales not only rank-order objects but are also based on the fact that the intervals between the consecutive objects are the same: the difference between 1 and 2 is the same as the difference between 3 and 4 (Hinton, 2004: 22). Temperature, for example, is measured on an interval scale (Stevens, 1946: 679). Ratio scales differ from interval scales only in the fact that they have an absolute zero point. With interval data the zero point can be arbitrary; for example, on the

Fahrenheit temperature scale the zero value is at a different position than on the Celsius temperature scale (Hinton, 2004: 22). On a ratio scale, however, the zero value represents the point on the scale where nothing is scored such as in the case of speed where zero ‘means the same thing regardless of whether we are measuring in miles per hour or kilometres per second’ (Hinton, 2004: 22). Temperature, therefore, cannot be measured on a ratio scale as the value zero on a Celsius or Fahrenheit temperature scale does not represent a point where nothing is scored. Ratio scales allow the analyst to draw conclusions such as Susan’s score is three times as good as Robert’s or Peter’s score is one fifth of Marie’s. The choice of measurement scale determines the type of data and can have a considerable impact on the type of data analysis which can be applied at a later stage. Consequently, Bard *et al.* (1996: 38) argue that the various types of scales are ranked in the amount of precision with which they measure a given concept and that all data should therefore be measured on the most precise applicable scale.

3.2.3 The use of Likert scales in attitude research

Likert scales have emerged as the most popular scaling technique in contemporary research (Oppenheim, 1992: 195). This measurement tool consists of asking a sample of informants to rate whether they agree or disagree with a collection of statements concerning the attitude under investigation (Garrett *et al.*, 2003: 40). Respondents are usually required to position themselves in relation to an attitude statement on a five-point continuum ranging from ‘strongly disagree’ to ‘strongly agree’ (Oppenheim, 1992: 195). Five-point Likert scales have become the most widely used type of scale as they allow for two levels of intensity within the positive (e.g. ‘Strongly agree’, ‘Agree’) as well as the negative (e.g. ‘Strongly disagree’, ‘Disagree’) evaluation of objects. The alternative answer categories, such as ‘Strongly agree’ or ‘Agree’, are assigned a numerical value and overall scores are calculated (Likert, 1967: 91). This scoring procedure allows the researcher to quantify respondents’ answers. In the case of a

five-point scale, one end of the continuum is assigned the value 1 whereas the other end is assigned the value 5 (Likert, 1967: 91). The inclusion of a fifth neutral point ensures that respondents are not forced to comply with answer categories they do not agree with (Bryman, 2004: 68). However, the number of points to include on the scale has been extensively discussed and the nature of the mid-point has been described as ambiguous (Garrett *et al.*, 2003: 41). An informant's choice of the mid-point could reflect their neutral or balanced attitude towards a particular statement; or, an informant can opt for the mid-point if they are uncertain as to how to respond to an issue which does not concern them directly (Garrett *et al.*, 2003: 41). Consequently, different informants can interpret the meaning of the mid-point in different ways. However, the majority of Likert scales used in language attitude research contain a neutral mid-point as most researchers prefer the ambiguity associated with a mid-point over the problems attached to forcing informants to fully commit themselves towards agreement or disagreement when no mid-point is included in the scale (Garrett *et al.*, 2003: 41).

Some researchers have extended five-point Likert scales to seven-point scales in an attempt to allow for a more sensitive measurement of variance (Garrett *et al.*, 2003: 41). These concerns to refine the measurement scale draw attention to potential limitations of five-point Likert scales. In their discussion of scales containing pre-determined answering points, Bard *et al.* (1996: 35) argue that 'there is no way of knowing in advance if our sensitivities are limited to a five-way distinction any more than a four-way distinction'. Moreover, the disagreements concerning the number of points to include in a Likert scale highlight the fact that the answering points are the results of arbitrary decisions taken by the researcher. Likert scales are ordinal in nature as the answering points concerning the respondent's level of agreement are rank-ordered. The question emerges whether Likert scales fulfil the requirements for interval scales. Likert scales can only produce interval data if the intervals between the various points on the scale are exactly the same. However, the claim that the interval between 'Strongly Disagree' and 'Disagree' is the same as the interval between 'Strongly

Agree' and 'Agree' can merely be an assumption. Eagly and Chaiken (1993: 55) argue that the level of measurement in Likert scales is unknown because 'Likert scaling does not have any internal checks for its representative measurement properties'. To sum up, the coarse nature of five-point or even seven-point Likert scales may be unable to reflect the respondents' degree of sensitivity when making judgements about different attitude statements. Moreover, the interval nature of Likert scales is highly debatable.

3.2.4 Magnitude estimation

The outlined shortcomings associated with Likert scales are frequently ignored, as is shown by the wide use of this type of scale across various research fields. In their attempts to find a more sophisticated measurement technique, Bard *et al.* (1996: 40) draw attention to magnitude estimation, a technique which was developed to provide a more detailed measurement of impressions than ordinal scales. Magnitude estimation originates from the work carried out in psychophysics (Stevens, 1946, 1956, 1975). Stevens (1975: 29) argues that within magnitude estimation 'all measurement involves the matching of any aspect of one continuum to an aspect of another continuum' and he highlights that one of the continua used in magnitude estimation is the system of numbers. Magnitude estimation requires the informant to associate numbers with any other stimulus or continuum with which he or she is confronted (Stevens, 1975: 29). Instructions such as the following are typically given to the respondent as a model for magnitude estimation:

You will be presented with a series of stimuli in irregular order. Your task is to tell how intense they seem by assigning a number to them. Call the first stimulus any number that seems appropriate to you. Then assign successive numbers in such a way that they reflect your subjective impression. There is no limit to the range of numbers that you may use.

You may use whole numbers, decimals, or fractions. Try to make each number match the intensity as you perceive it. (Stevens, 1975: 29).

These instructions indicate that informants are clearly required to rate the various stimuli in relation to each other. So a stimulus which the informant perceives as being ten times as strong as the previous stimulus must be assigned a number ten times the original number (Bard *et al.*, 1996: 41). Magnitude estimation, therefore, produces ratio data as the informants can, for example, express that their impression of stimulus A is 1.5 times smaller than their impression of stimulus B.

Magnitude estimation does not limit respondents to a pre-determined range of numbers which they can assign to various stimuli. However, not everyone is familiar with matching numbers to different stimuli while having to pay attention to the relation between the various stimuli (Stevens, 1975: 29). Consequently, informants are often required to fulfil a preliminary experiment which consists of judging the apparent length of a set of lines in order to train their sensitivities for assigning numbers to stimuli (Stevens, 1975: 29). Magnitude estimation allows informants to signal minute differences by choosing decimals or fractions. Bard *et al.* (1996: 41) claim that despite initial confusions the majority of adults are capable of the process of number matching. However, the use of numbers and the explicit instructions to estimate numerical ratios between different stimuli can be a time-consuming and challenging task for certain target groups such as children or school pupils.

Magnitude estimation enables the researcher to collect ratio data, as opposed to ordinal data which are normally obtained from five-point Likert scales. The use of a numerical scale can be confusing for informants particularly, those who have not perfected their command of numbers, such as, for example, children. The use of magnitude estimation has been extended beyond its initial estimation of brightness or loudness (Bard *et al.*, 1996: 40). In linguistic research, magnitude

estimation has been employed to study, for example, judgements of linguistic acceptability (Bard *et al.*, 1996). Eagley and Chaiken (1993: 43) claim that magnitude estimation can also be used to measure attitudinal stimuli. However, very few social scientists, and attitude researchers in particular, have paid attention to this technique despite the various advantages it offers.

3.2.5 Development of the magnitude continuum

The advantages and disadvantages associated with both conventionally used five-point Likert scales and magnitude estimation are at the origin of the use of an innovative measurement tool for this study. The development of the magnitude continuum is driven by concerns to provide the informant with greater freedom of expression and to enable the analyst to gain a fine-grained measurement of the respondent's evaluation of the attitude object. The magnitude continuum (Figure 3.1) consists of a line anchored by 'Agree' at one extreme and 'Disagree' at the other extreme. Informants are instructed to position themselves anywhere on the line by drawing a vertical line through the horizontal continuum.

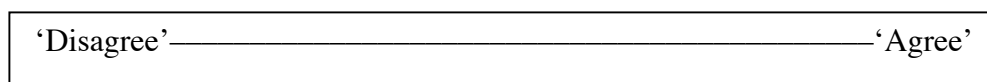


Figure 3.1: The magnitude continuum

The magnitude continuum does not contain any arbitrary answering points and, therefore, provides a solution to the highly debated issue regarding the number of answering categories to be included on measurement scales. The magnitude continuum also addresses the concerns raised by Bard *et al.* (1996: 35) that the researcher is unable to predict whether the informants' sensitivities are restricted to a four-point answering scale any more than a five-point answering scale.

The magnitude continuum is an adaptation of magnitude estimation. The numerical scale which forms the basis of magnitude estimation is replaced by a

visual scale in the magnitude continuum. Consequently, informants are no longer required to match numbers to stimuli but can simply indicate their agreement or disagreement with a collection of stimuli or attitude objects by drawing a vertical line on a horizontal continuum. The continuum is identical for all stimuli or attitude objects; comparisons between ratings of different stimuli or attitude objects are, therefore, fast and straightforward. The visual aspect of the magnitude continuum increases user-friendliness as informants do not have to employ numbers. Consequently, the magnitude continuum can be employed with children or other target groups who do not have a good command of numbers. The magnitude continuum produces ratio or at least interval data and, therefore, allows the researcher to carry out more detailed analyses than with ordinal data measured on a five-point or seven-point Likert scale.

Although this fine-scale measurement technique can ensure a more detailed measurement of the informants' responses, it also requires a more sophisticated method of analysis than a conventional five-point Likert scale. The responses to the visual measurement scale (magnitude continuum) need to be converted into numerical values for statistical analyses. Prior to the calculation of scores the informants' self-positioning on the various lines have to be measured. The measurements of the rating scales can be carried out through the use of digital image processing software. *ImageJ*, a free image processing software package, was used in order to digitally measure lengths on the questionnaires employed in this study. In order to be able to use *ImageJ* the paper copies of the questionnaires had to be converted to digital images through scanning.

While the magnitude continuum allows researchers to address some of the abovementioned shortcomings typically associated with five-point Likert scales, it also has a number of drawbacks. Firstly, the initial processing of magnitude continuum data is a time-consuming procedure (as was described above). Secondly, respondents tend to be familiar with five-point Likert scales due to their extensive use in various research fields and they may, therefore, encounter

difficulties when they are required to express agreement/disagreement on an unfamiliar scale. However, this was not considered to cause problems during the data collection for this study, as Likert scales are rarely used in Luxembourg. Consequently, they would not have necessarily constituted a more familiar type of scale for the sampled population than the magnitude continuum. A final drawback of the magnitude continuum lies in its inability to offer a solution to the problems associated with the ambiguity of the neutral mid-point of measurement scales. While no specific label is attached to the mid-point on the magnitude continuum, a score of 50 on a scale from 0 to 100 still represents an ambiguous answer. Overall, the advantages of the magnitude continuum such as increased freedom of expression and the possibility of collecting continuous attitudinal data were believed to outweigh the outlined shortcomings.

3.2.6 Validation of the magnitude continuum

All measurement scales can be subject to the central tendency bias (Sims, 2002: 94), i.e. informants tend to avoid using the extreme ends of the scale and their answers thus concentrate around the central points. The potential negative effect of the central tendency bias on the success of a measurement scale becomes a particularly urgent concern for researchers who employ scales with a small number of answering points such as five-point Likert scales. If an informant refrains from using the 'strongly disagree' and 'strongly agree' points of a five-point scale, the analyst is faced with responses showing only three levels of intensity. As noted before, the neutral mid-point of five-point Likert scales must be interpreted with caution because of the disagreements concerning its exact meaning (3.2.2). In light of the shortcomings that can be associated with measurement scales employing a small number of answering points, the informants' use of the magnitude continuum was investigated in detail in order to detect whether they make use of the full spectrum of the magnitude continuum or whether their responses also concentrate around the centre of the scale. In order to validate the magnitude continuum, eight randomly chosen informants responses to

twenty-three attitude statements were plotted. Figures 3.2 and 3.3 demonstrate that on average informants employ the full spectrum of the magnitude continuum and no obvious response clusters can be identified. The magnitude continuum, therefore, not only provides informants with increased freedom of expression but also enables the analyst to detect fine-grained differences in attitudinal responses.

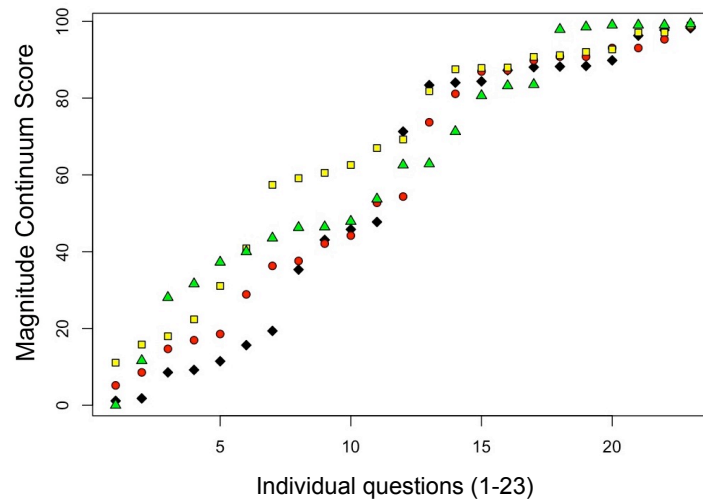


Figure 3.2: Visualisation of four randomly chosen students' answers to twenty-three attitude statements on the magnitude continuum. Square = Student 1, triangle = student 2, circle = student 3, diamond = student 4. Each symbol represents a response to an attitude statement on a magnitude continuum.

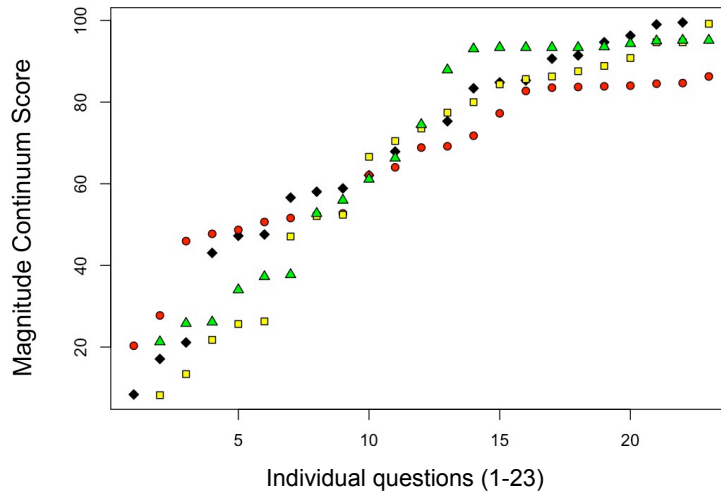


Figure 3.2: Visualisation of four randomly chosen students' answers to twenty-three attitude statements on the magnitude continuum. Square = Student 5, triangle = student 6, circle = student 7, diamond = student 8. Each symbol represents a response to an attitude statement on a magnitude continuum.

3.3 Adapting measurement techniques to the psychological complexity of attitudes

3.3.1 Multi-item scales

When assessing attitudes by requiring informants to express their level of agreement or disagreement with attitude statements, the wording of individual statements can have a considerable impact on the responses. Slight differences in wording of individual statements can result in different responses (Dörnyei, 2003: 32). Dörnyei (2003: 34) draws attention to the possibility of using multi-item scales and argues that due to the 'the fallibility of single items, there is a general consensus among survey specialists that more than one item is needed to address each identified content area, all aimed at the same target but drawing upon slightly different aspects of it'.

Multi-item scales are also referred to as additive scales or summated scales due to the procedure of calculating an overall score for a group of statements by adding response scores from individual statements (Peterson, 2000: 76). Multi-item

scales not only have the advantage of reducing the weight of single items but they also work in agreement with Fishbein's description of attitudes as an underlying concept which must be deduced from several statements or actions that an informant directs at a given attitude object (1967: 259) (2.3.3). Multi-item scales, therefore, enable the researcher to assess a respondent's favourability towards a set of statements which collectively reflect the same underlying attitude.

Multi-item scales are based on the assumption that the individual statements which are grouped all focus on the same target or underlying attitude. Consequently, researchers need to assess the dimensionality of multi-item scales before calculating an overall score (Oppenheim, 1992: 195-197). A unidimensional scale measures only one concept, whereas a multidimensional scale focuses on two or more entities (Baker, 1992: 56).

The items of each scale can be subjected to a 'latent variable analysis' which is a type of factor analysis (Baker, 1992: 56). Factor analysis consists of a statistical technique which can reveal groupings and interconnectedness among large numbers of variables (Bryman, 2004: 539). It allows the analyst to detect groups or clusters of statements which are correlated with one another but are not correlated with statements in other groups or clusters (Eagly & Chaiken, 1993: 86). Factor analysis has been widely used in language attitude research. In her study of language attitudes towards Doric, McGarrity (1998: 172) employs Principal Component Analysis, a type of factor analysis, in order to reveal the common factors underlying the responses to a number of questions. McGarrity (1998: 172) explains that questions demonstrating similar patterns of responses are assembled and assumed to be measuring the same thing. Consequently, overall scores can be calculated as long as individual questions and their responses are grouped according to their respective dimensions.

The use of multi-item scales can help researchers overcome certain obstacles such as reducing the weight of individual items as well as obtaining a fuller picture of

respondents' attitudes by looking at responses to various statements collectively. However, multi-item scales are not free from limitations. By focusing on summated scores in the analysis of the data the researcher is inevitably faced with a loss of detail as responses to individual items are hidden (De Vaus, 1991: 267). Moreover, two respondents can have exactly the same score on a particular group of statements without having answered the individual statements in the same way (De Vaus, 1991: 267). In the final analysis these two respondents would then be considered as identical despite the fact that they might differ substantially in their agreement/disagreement with the individual statements forming the cluster or dimension under investigation. A further shortcoming of multi-item scales is related to the 'equivalence of items' (De Vaus, 1991: 268). When calculating the overall score individual items have the same weighting and, therefore, contribute equally to the final score. However, individual items which, for example, have different distributions or a different number of response categories will contribute differently to the final score and are, therefore, not weighted equally. De Vaus (1991: 270) explains that this difference in weighting occurs because 'scores that people obtain have no *absolute* meaning but are *relative* to the distribution in which they occur'. For example, a multi-item scale focusing on life satisfaction could be based on five individual items such as satisfaction with job, marriage, education, standard of living and social life. The scale employed ranges from 0 to 10 with a higher score representing a higher degree of satisfaction. De Vaus (1991: 269) exemplifies the problems of relative weightings by explaining that, in the investigation of life satisfaction, most people expressed satisfaction on the marriage scale with an average of 7.5, where all scores lie between 4 and 10. Dissatisfaction with the standard of living was signalled by an average score of 2.5 with everyone giving a score of 6 or below. The question that emerges is whether a score of 5 on the marriage question has the same meaning as a score of 5 on the standard of living question. De Vaus (1991: 270) claims that 'although they are the same number, they have quite a different meaning when viewed in the context of the rest of the people who answered the question'.

Finally, missing data pose a considerable challenge to researchers who are developing multi-item scales. In cases where informants did not respond to a particular item, the researcher still has to record a score for this individual item when calculating the overall score for the statement group (De Vaus, 1991: 273). If no individual score is included for the missing data point the overall score will be skewed. However, randomly choosing a number to assign to the missing scores does not overcome the problem of distorting the data. Using zero to score missing responses will deflate the scale whereas using any number higher than zero will inflate the scale. To sum up, the procedure of grouping individual statements which target the same object but approach it from slightly different perspectives enables the researcher to gain a fuller and more balanced picture of a person's underlying attitude. However, the process of adding up individual scores into an overall group score is characterised by serious drawbacks.

3.3.2 Mixed-effects modelling

Due to the various shortcomings associated with summated or multi-item scales, an alternative method for the analysis of the responses to the attitude statements is employed in this study. However, the benefits attached to grouping individual attitude statements (3.3.1) were taken into consideration when choosing an appropriate statistical tool. Mixed-effects models are a useful statistical tool for the analysis of grouped data and are increasingly used in fields such as agriculture, biology, economics, manufacturing and geophysics (Pinheiro & Bates, 2000: vii). According to Pinheiro and Bates (2000: 3) mixed-effects models 'are primarily used to describe relationships between a response variable and some covariates in data that are grouped according to one or more classification factors'.

Mixed-effects models distinguish between 'fixed effects' and 'random effects'. Whereas fixed effects can be defined as parameters which are associated with an entire population, random effects consist of individual units drawn from a

population (Pineiro & Bates, 2000: 3). Fixed effects are generally characterised by a small number of levels; gender, with male and female as possible levels, constitutes an example of a fixed effect (Johnson, 2008: 6). Individual informants, on the other hand, are usually treated as random effects in a mixed model. Fixed effects typically represent the object of interest in a study and can be replicated in other studies (Johnson, 2008: 7). Random effects, on the other hand cannot be replicated, in most cases. So two different studies focusing on the same object of interest can involve men and women (fixed effect) but it is unlikely that exactly the same informants (random effect) will take part in both studies (Johnson, 2008: 6).

When mixed-effects models are applied to the data collected for this study, the fixed effects consist of the various explanatory or independent variables such as for example ethnicity, the type of school students are enrolled in or the students' choice of language for the completion of the questionnaire. The random effects, being smaller units drawn from a larger population or group, consist of individual informants and individual attitude statements. Including individual informants or speakers as random effects strengthens the model. So Johnson (2008: 7) argues that 'including a random speaker effect takes into account that some individuals might favour a linguistic outcome while others might disfavour it, over and above (or 'under and below') what their gender, age, social class etc. would predict. As a consequence mixed models will only detect external effects such as gender or age 'when they are strong enough to rise above inter-speaker variation' (Johnson, 2008: 7).

By using mixed-effects models it is possible to analyse groups of attitude statements without having to calculate a single overall score for the individual statements in the group. Consequently, there is no loss of detail and the analyst can detect different patterns among the responses to the individual statements in the group. Mixed-effects modelling constitutes an attractive alternative to additive

scales as it enables the researcher to analyse groups of statements without losing any of the detail attached to the individual statements which form the group.

As responses to individual questions remain visible throughout the process of analysis, the concerns regarding dimensionality which govern the analysis of multi-item scales become less urgent. Ensuring that the individual statements within a multi-item scale all focus on exactly the same target constitutes a crucial pre-requisite for calculating a single overall score for these statements (3.3.1). The transparency of mixed-effects models grants the analyst flexibility when grouping individual statements as the responses to individual statements can be retrieved at any point. For example, separate statements which conceptually focus on the cognitive, affective and behavioural components of attitudes towards Luxembourgish could be grouped and incorporated in a mixed model. A hypothesis test could then be carried out in order to check whether the response patterns of Luxembourgish nationals differ significantly from those of Portuguese immigrants. The individual statements concerning the cognitive, affective and behavioural aspects can be grouped even if they do not show similar response patterns; this increased flexibility results from the fact that the responses to the individual questions will remain visible in the model. This aspect of mixed models addresses some of the shortcomings of multi-item scales highlighted by De Vaus (1991: 267) and discussed in section 3.3.1. As noted earlier, De Vaus argues that two informants' final score in a multi-item scale can be identical even if their responses to the individual statements vary. Mixed-effects models, therefore, allow for a more detailed and transparent analysis and understanding of informants' responses to groups of attitude statements.

In this study, mixed-effects models are fitted using the *lme4* package in R, an open-source platform for statistical analysis. Baayen *et al.* (in press) draw attention to the fact that R is currently 'the leading platform for research and development' as it is increasingly used across research fields.

3.4 Data collection

3.4.1 Direct approaches to language attitude research

The psychological complexity of attitudes has resulted in the development of different approaches to the study of attitudes. One of the most common methods for the investigation of attitudes consists of directly asking informants to report their attitudes towards the object of interest. This so-called 'direct approach' to the study of attitudes is 'obtrusive' in nature due to its direct elicitation of information from respondents (Garrett *et al.*, 2003: 16). Recorded interviews and self-completion written questionnaires constitute typical examples of the 'direct approach' (Garrett *et al.*, 2003: 25).

Many research projects are characterised by the use of either questionnaires or recorded interviews. Various advantages and disadvantages apply to both data collection tools. The conditions under which the data are collected often determine which tool can be employed (Garrett *et al.*, 2003: 31). If, for example, the target group of a study consists of young children or speakers of a language with no written script the researcher is compelled to employ recorded interviews (Garrett *et al.*, 2003: 31). Apart from such constraining circumstances, interviews are frequently chosen as a data elicitation technique because of the various advantages associated with them. Recorded interviews typically produce detailed accounts from informants and the fieldworker can exploit the interactive nature of the interview to better their understanding of the informants' responses. Any differences in the interpretation of questions can be clarified and the format of the recorded interview allows informants to raise any interesting points which could not have been anticipated by the researcher (Garrett *et al.*, 2003: 35). However, interviews are extremely time-consuming and costly to administer (Bryman, 2004: 133). Consequently, in studies employing recorded interviews the number of informants is often limited (Garrett *et al.*, 2003: 34) and the data obtained from

interviews can be difficult to quantify or to analyse systematically (Codó, 2008: 158).

Self-completion written questionnaires constitute an alternative tool which is useful for collecting quantifiable data on language attitudes, language abilities and self-reported language behaviour (Codó, 2008: 158). Administering written questionnaires can be fast and normally does not incur high costs (Bryman, 2004: 34). Only one fieldworker is needed to collect large amounts of data from numerous informants, who can be asked to fill in the questionnaire at the same time (Garrett *et al.*, 2003: 34). However, due to the absence of an interviewer, respondents cannot be encouraged to elaborate on their answers and the researcher has less control over potential misinterpretation of questions (Bryman, 2004: 134). Fortunately, interviews and questionnaires do not constitute mutually exclusive data collection tools. Researchers can employ these two types of direct approaches at different stages during the data collection in order to obtain a better understanding of the target group's attitudes. For example, interviews recorded during a pilot study can inform the researcher of interesting topics and questions which can be included in a written self-completion questionnaire (Codó, 2008: 173).

The quantitative investigation of attitudes for this project is characterised by the use of a self-completion written questionnaire. As all fieldwork was carried out in schools during normal school hours, written questionnaires were employed in order to be able to collect large amounts of data during a small period of time. Self-completion questionnaires emerge as a particularly useful tool for attitudinal research in educational settings as their administration creates minimal disturbance in the daily school routine. The questionnaires employed in this study were administered to groups of informants consisting of 20 to 30 students at the same time. The researcher was present at the time of the completion of the questionnaires in order to be able to answer any potential questions. The majority of teachers completed the questionnaire in the presence of the fieldworker; due to

time constraints, some teachers preferred to fill in the questionnaire at home and return it to the fieldworker the next day. By personally picking up the questionnaire from the teachers the researcher had the opportunity to discuss and clarify any confusions which could have arisen during the completion of the questionnaire.

3.4.2 Developing the questionnaire

A familiarity with various questionnaire design techniques was necessary before the questionnaires for this study were assembled. The various questions designed for the purposes of this study (Appendix A) are characterised by different amounts of structure and degrees of directness. This aspect will be explored in more detail below. Attention was also paid to the density of the questionnaires and their appearance was kept orderly in order to ensure the respondent's willingness to invest time and effort into the completion of the questionnaire (Dörnyei, 2003: 19). The structure was visually enhanced by using a variety of print styles, such as different fonts, font sizes and font styles. These steps were undertaken in order to facilitate the successful completion of the questionnaire for the respondents (Bryman, 2004: 138).

Questionnaires and interviews can contain closed-ended and open-ended questions. Closed-ended questions frequently restrict the respondent's expressiveness but can be answered quicker and, therefore, yield larger amounts of data (Oppenheim, 1992: 114). Open-ended questions, on the other hand, enable participants to respond in their own words and allow them to raise any concerns which previously had not been considered by the researcher (Bryman, 2004: 145). Self-completion questionnaires rarely contain many open-ended questions as participants have to invest a considerable amount of time and effort in writing lengthy answers (Oppenheim, 1992: 122). Questionnaires are frequently employed due to a desire to collect quantifiable data from a large sample of informants. Consequently, questions are often closed-ended in order to

facilitate the quantification and analysis of data (Codó, 2008: 173). However, a combination of both closed-ended and open-ended questions can enable the researcher to obtain the best possible understanding of the population under investigation. The inclusion of the two types of questions allows the respondents to provide a large amount of quantifiable data as well as to express their personal views about ‘unexpected significant themes and categories’ to open-ended questions (Codó, 2008: 173). For example, recording interviews with open-ended questions during a pilot study can provide the researcher with the necessary understanding to create appropriate closed-ended questions for a written questionnaire.

Careful wording of questions constitutes a further criterion for the elicitation of useful answers. Bryman (2004: 152-155) stresses the importance of avoiding long as well as leading questions. The inclusion of strongly slanted questions can compromise the success of a research project. ‘Do you disagree that Welsh children should be perfectly entitled to learn Welsh?’ constitutes an example of a slanted question due to its leading content (Garrett *et al.*, 2003: 28). Moreover, researchers should refrain from using ambiguous and technical terms and should not include questions containing negatives. Respondents can easily miss the word ‘not’ when reading a question and, therefore, provide an answer which does not reflect their beliefs or attitudes. Questions containing double negatives are particularly prone to misinterpretation (Bryman, 2004: 15). In fact, questions such as ‘Would you rather not use a non-medicated shampoo’ can easily be interpreted or understood differently by different respondents (Bryman, 2004: 155). Double-barrelled or multiple questions, such as ‘Should children in any part of Scotland be able to learn Gaelic at school if they or their parents want it?’ also fail to receive satisfactory answers (Garrett *et al.*, 2003: 28). This question arguably consists of two questions due to the inclusion of both ‘children’ and ‘parents’ in the conditional clause. Questions which ask about more than one thing at a time pose problems to respondents who hold conflicting attitudes or beliefs towards the two objects in question. The careful preparation of questions,

therefore, constitutes a crucial step in the research procedure because correctly asking the various types of questions under the correct format of investigation is a prerequisite for obtaining useful results.

The questionnaire employed in this research project (see Appendix A) is seven pages long and contains six sections. The completion of the questionnaire took thirty minutes on average. First of all, informants are required to provide details regarding their personal language use as well as to establish their preferred language(s) of instruction. The second and third sections focus on the informants' learning experiences of the various languages used and learned in Luxembourg (Luxembourgish, French, German, English and any other language(s) spoken by the informant) and requires the informants to rate their competence in these languages. The fourth part of the questionnaire contains statements regarding the changing language of instruction policies in Luxembourg's schools. The questionnaire also aims to elicit information about the informants' personal background such as nationality, age, gender and hometown as well as future career plans.

A major part of the questionnaire consists of a collection of attitude statements. Informants are required to show their level of agreement with various statements concerning the use of Luxembourgish, French and German in schools as well as beyond the educational sphere. Authentic language attitude statements for this research project were drawn from qualitative interviews carried out as a pilot study. These interviews were recorded with 70 informants from Luxembourgish, Italian and Portuguese backgrounds. Questions were focused on personal language use, languages in education, the status of Luxembourgish, French and German in Luxembourg and the role of language in the integration of immigrants. A subsample consisting of secondary school students and teachers was created in order to investigate attitudes towards the change of the language of instruction from German and French after the first three years of classical secondary education. The Luxembourg Minister of Education, Mady Delvaux-Stehres, was

interviewed in order to gain a better understanding of the policy makers' perspective on language use in the education system. Further statements were drawn from the recent language policy document entitled *Réajustement de l'Enseignement des Langues Plan d'Action 2007-2009* by the Luxembourg Ministry of Education. This document outlines the current position of the authorities towards the role of the various languages in the education system. A meeting with a representative of the Luxembourg Ministry of Education in January 2008 ensured that the investigator was fully aware of the latest developments of the language reform taking place in Luxembourg's schools at the time of the data collection.

The attitude statements included in the questionnaires were selected from the abovementioned sources as follows. Firstly, recurrent themes were identified in the interviews recorded during the pilot stage as well as in the chosen policy documents. A large collection of specific statements focusing on these themes were then transcribed. Subsequently, specific statements to be included in the questionnaires were chosen by the author. During the selection process particular attention was paid to the various criteria for successful questionnaire construction outlined above (e.g. no double-barrelled statements or leading statements, no statements containing double negatives etc.).

The attitude questionnaire was carefully developed and translated into Luxembourgish, French and German. This multilingual approach originates from an attempt to avoid the researcher's impact on the informants' responses as far as possible. The choice of one language over another for the presentation of the questionnaire could have introduced a bias into the data. Moreover, offering informants the questionnaire in various languages minimises any comprehension problems. Codó (2008: 172) argues that the translation of the questionnaire into the different languages spoken in the multilingual context under investigation constitutes a crucial step in the research design as it may lead to higher levels of participation. The informants' actual choice of language for the completion of the

questionnaire also indicates clear language preferences and, thus, provides initial large-scale language behaviour data. The translated questionnaires were checked by native speakers of Luxembourgish, German and French in order to detect any ambiguities and to avoid misunderstandings before the administration of the questionnaire to the fieldwork sample took place.

3.4.3 Indirect approach to language attitude research: Implicit Association Test

As the expression of attitudes can be biased towards socially desirable attitudes, it is important for researchers to complement their investigation of explicit language attitudes with a measurement of informants' implicit language attitudes. Greenwald and Banaji (1995: 8) define implicit attitudes as 'introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward social objects'. Explicit attitudes, on the other hand, consist of people's conscious expression of their beliefs, feelings and behavioural intentions towards the object of interest and are usually retrieved from responses to direct questions forming part of recorded interviews or written questionnaires. However, these explicit attitudes can be biased towards socially desirable attitudes and therefore may not reflect a speaker's real language attitudes (Garrett, 2007: 117). Indirect methods have been developed in order to overcome this particular shortcoming. In sociolinguistics, the matched-guise technique, developed by Lambert and his colleagues (Lambert et al., 1960), constitutes one of the most extensively used indirect methods for the elicitation of attitudinal data. In a bilingual context, matched-guise tests can, for example, consist of confronting an informant with speech samples in more than one variety. The informant is, then, required to judge these speech samples according to criteria such as the speaker's integrity, attractiveness, intelligence and sincerity (Nortier, 2008: 43).

This thesis introduces the Implicit Association Test (IAT) as a different type of indirect method for the investigation of language attitudes. The IAT is a recently

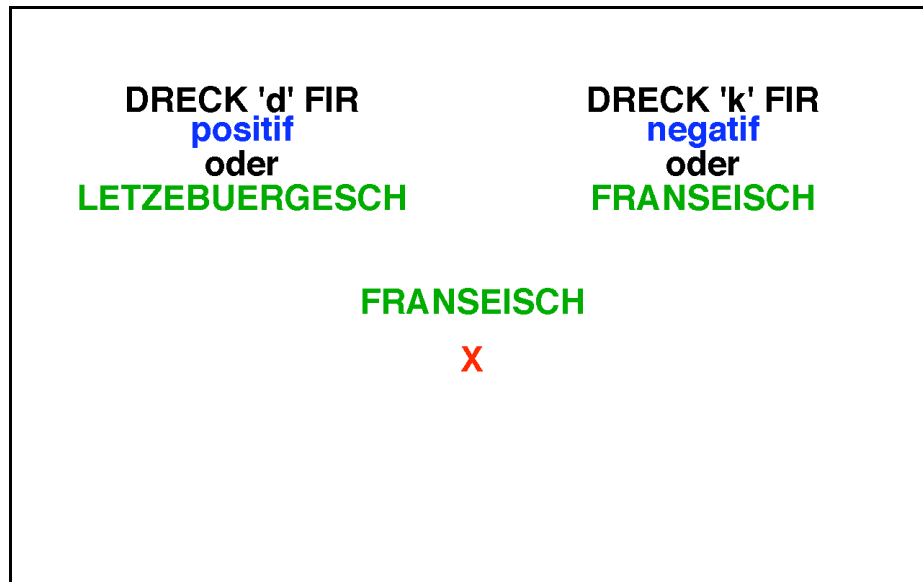
devised research tool for the measurement of implicit attitudes (Greenwald *et al.*, 1998). The IAT has been extensively used across various research fields in order to assess a variety of implicit attitudes (Borton *et al.* 2007) but has failed to make an impact on studies of language attitudes so far. This may be due to the fact that the results obtained from IATs have various limitations. These shortcomings will be discussed in detail in section 4.4. The IAT measures informants' automatic associations between different categories (e.g., Insects vs. Flowers, Black people vs. White people) and positive or negative attributes. Greenwald *et al.* (1998: 1465) argue that 'the implicit association method may reveal attitudes and other automatic associations even for subjects who prefer not to express those attitudes'. By avoiding the requirement that informants report their attitudes in a direct manner, the IAT is able to reveal whether informants associate certain target objects, such as languages, with positive or negative attributes. In this thesis, the IAT is treated as an indirect method for the collection of language attitudes, as informants are not asked to express their attitudes in a direct manner. During the data collection for this study, a small-scale IAT of language attitudes was used in order to complement the large-scale attitude study and to pilot a new indirect data elicitation method (to be developed further in future research). A limited sample of five students completed an IAT which required them to associate two languages, Luxembourgish and French, with positive and negative attributes.

The IAT employed for the purposes of this study is based on Borton *et al.*'s (2007) IAT for the measurement of self-esteem. Detailed instructions concerning the design and analysis of this IAT can be found in Borton *et al.* (2007). The following IAT focuses on the measurement of implicit language attitudes towards Luxembourgish and French among secondary school students in Luxembourg. The IAT is composed of a sequence of seven categorisation tasks to be completed by the informant on a computer. The measurement of the informants' reaction times allows the researcher to gain insights into implicit language attitudes. Informants are required to assign stimulus words which appear in the middle of

the screen and represent either the target concept (e.g., Luxembourgish and French) or stimulus attributes (positive or negative) to two different categories, one on each side of the computer screen. Categorisation is performed by pressing either the 'd' key for the left-hand category or the 'k' key for the right-hand category. The two categories to which the stimulus words need to be assigned are represented by the target concepts 'Luxembourgish' and 'French' or the stimulus attributes 'positive' and 'negative' and they appear at the top of the screen, one word on each side. The target concepts for an IAT of language attitudes typically consist of the different languages of interest. The first categorisation task aims to familiarise informants with sorting two target concepts into two separate categories. When the stimulus words 'Luxembourgish' and 'French' appear in the middle of the screen, the informant needs to assign them to the relevant category ('Luxembourgish' or 'French'). The second categorisation task involves the sorting of positive and negative attributes which are represented by adjectives with positive (e.g. beautiful, nice, pleasant) or negative meanings (e.g. annoying, boring, bad). In this case, the two categories to which the attributes need to be assigned are represented by the words 'positive' and 'negative' and they appear on the top of the screen, one word on each side.

During the third block, the previous two categorisation tasks are combined in a practice round where informants are asked to press one key for 'Luxembourgish' and 'positive' and a different key for 'French' and 'negative'. In the fourth block, informants are tested on the combined categorisation task practiced during the third block. The fifth task consists of a further single categorisation task of the target concepts ('Luxembourgish', 'French') similar to the first block; however, this time the keys are reversed. The sixth and seventh blocks are combined tasks similar to the third and fourth blocks but with reversed keys. Informants are given the opportunity to practice the reversed combined categorisation task during the sixth block before they are tested in the seventh and final block. In other words, informants are now required to press one key for 'Luxembourgish' and 'negative'

and a different key for 'French' and 'positive'. Picture 3.1 displays the IAT interface during a combined categorisation task.



Picture 3.1: Screen capture of the IAT interface during a combined categorisation task.

The IAT scores which provide insights into implicit attitudes emerge from the two combined categorisation tasks performed in blocks 4 and 7. By calculating the difference of the informants' mean reaction times to the two test blocks (4 and 7) implicit attitudinal differences can be revealed (Borton *et al.*, 2007: 789). Greenwald *et al.* (1998: 1466) argue that 'if the target categories are differentially associated with the attribute dimension, the subject should find one of the combined tasks [...] to be considerably easier than the other'. The difference in ease or difficulty results in different reactions times and reveals an implicit attitudinal difference between target categories. In other words, if an informant reacts faster when having to press one key for 'Luxembourgish' and 'positive' (Block 4) than for 'French' and 'positive' (Block 7), the researcher can assume that the informant holds a more positive implicit attitude towards Luxembourgish than towards French. The various categorisation tasks require very little time to complete and a full IAT lasts no longer than 3 to 4 minutes on average. The fast nature of the IAT, therefore, minimises the potential effects of fatigue on the

informants' reaction times. However, slower reaction times in block 7 (compared with block 4) may be due partly to fatigue. In addition, ordering effects may skew the data.

The small-scale IAT carried out in the context of this study aimed to complement the large-scale patterns of explicit language attitudes investigated through the use of a written questionnaire as well as to introduce the IAT as a tool for the investigation of language attitudes. Follow-up interviews with the students who participated in the IAT study indicate that the IAT is a particularly suitable method for the collection of attitudinal data with secondary school students. The computer-based nature of the task appealed to all sampled informants who reacted with considerable ease during the various categorisation tasks.

3.4.4 Summary

The data for the attitudinal aspect of the study were mainly collected through a self-completion questionnaire. Pilot research consisting of recorded interviews served as the basis for the development of the questionnaire. In addition, a small-scale IAT of students' implicit language attitudes towards Luxembourgish and French was carried out in order to complement the investigation of explicit language attitudes (i.e. questionnaire). While the translation of the questionnaire into Luxembourgish, French and German allowed for initial insights to be gained into patterns of language choice, an ethnographic study was carried out to reach a more detailed understanding of language behaviour and the connection between language attitudes and language behaviour. The methodology employed for the behavioural aspect of this study will be discussed in the following section (3.4.5).

3.4.5 Collecting code-switching data

While the large-scale attitude study aims to elicit self-reports from informants concerning their language preferences, language learning experiences and

language attitude, the investigation of code-switching among students and teachers is ethnographic in nature. In this thesis, the investigation of classroom code-switching is labelled 'ethnographic' in order to emphasise the observational nature of this part of the study and to establish a clear distinction with the methodological approach adopted in the questionnaire study of language attitudes. It is acknowledged that the methods are not fully ethnographic in the sense that the author was not completely immersed in the school community. Details regarding the role adopted by the author during the data collection are provided below. The collection of multilingual speech data in closed settings, such as schools, poses a considerable challenge for the researcher. Bryman (2004: 296) argues that gaining access to such contexts requires a combination of 'strategic planning, hard work and dumb luck'. Ethnographic studies, with their focus on observing actual linguistic practices in their natural contexts, differ from many other sociolinguistic studies which employ, for example, the sociolinguistic interview as their principal data collection tool. Camilleri's (1996: 95) research, focusing on code-switching in secondary classrooms in Malta, employed 'micro-ethnographic observation in classrooms, transcription of audio and video-recorded lessons, and informal interviews with teachers'. Similarly, Shin and Milroy's (2000: 356) analysis of code-switching among Korean-English bilingual children used ethnographic research methods in order to investigate the characteristics of multilingual language behaviour in interaction.

While ethnographic methods are particularly suitable for the investigation of code-switching practices in classrooms, the researcher must overcome a number of obstacles such as gaining access to and successfully adopting a role in the new environment. Despite the fieldworker's wish to receive complete access to closed settings they are very often restricted to a certain degree and will not be given 'a carte blanche' (Bryman, 2004: 301). The majority of ethnographers adopt an overt role from the beginning for ethical and practical reasons (Bryman, 2004: 296). Aside from the ethical problems which are connected with covert observation, researchers can benefit from participants who are aware of the research as they

are often able to enhance the fieldworker's understanding of the situation through their participation in informal interviews (Johnstone, 2000: 88). The difficulties of gaining access are only rarely solved by the researcher's adoption of a covert role (Bryman, 2004: 194).

Ethnographers can assume various roles and attain different levels of involvement in their research settings. Eckert (1989: 29) claims that researchers must establish a role for themselves in schools and explains that in her study of social categories and identity construction in an American high school she adopted a role that 'did not resemble any previously existing institutional roles.' By distancing herself from teachers, Eckert was able to gain the confidence of the students despite her age and her initial status of intruder. There are four possible research stances: complete participant, participant-as-observer, observer-as-participant and complete observer (Sevigny, 1981: 69). The role of complete participant is characterised by the fieldworker's complete involvement in the informants' daily lives. The researcher's real identity is often unknown to study participants (Bryman, 2004: 301); therefore, the role of complete participant is accompanied by considerable ethical problems. Fieldworkers who adopt the role of participant-as-observer are still actively engaged in participants' lives but their identity as researcher is known to participants (Bryman, 2004: 301). The observer-as-participant, however, only takes part to a limited extent in the study subjects' lives and is mainly an observer or interviewer. The complete observer does not interact at all with study participants and only employs very discreet manners of observation (Bryman, 2004: 301). Sevigny (1981: 69) argues that ethnographers working in the classroom have mostly been restricted to adopting the stance of observer-as-participant or complete observer.

During the data collection for this study the researcher adopted the role of observer-as-participant. Interactions between the researcher and the participants were limited to informal conversations during breaks as well as to recorded interviews. By adopting a largely passive role the researcher minimised his influence on the daily school routine (see 3.6.2 for further details). This approach ensured that the data reflected normal school lessons as far as possible. However,

during breaks the researcher consciously engaged in informal interactions with both students and teachers in order to gain their trust.

3.5 The sample

An important step in sociolinguistic research consists of defining the sample to be used. Sociolinguistic studies are often characterised by much smaller samples of participants than other research projects (Milroy & Gordon, 2006: 28). Labov (1966: 180-1) argues that statistical representativeness is not a key factor in sociolinguistic research as language use is more homogeneous than other phenomena. Consequently, judgement samples are often employed; the researcher establishes criteria, based upon relevant social variables, which informants have to fulfil in order to be eligible for the study. The choice of variables in a sociolinguistic study is influenced by certain conditioning factors. Llamas (2007: 14) argues that the researcher must attempt to include as many relevant social variables as possible while assuring a manageable sample size. Separate samples are employed for the large-scale study of language attitudes and the small-scale ethnographic study of language behaviour.

3.5.1 Sample for the attitudinal study

All the data collection was carried out in secondary schools in Luxembourg. For the attitudinal section of the study, six secondary schools were contacted prior to the start of the fieldwork and access to students and teachers was negotiated. As noted earlier, the Luxembourg education system is largely split between ‘Lycée Classique’ and ‘Lycée Technique’. Classical secondary education aims to prepare students for further studies at university-level. Technical secondary schools, on the other hand, mainly serve as an initiation into various professions but do not prevent students from enrolling into higher education (Berg & Weis, 2005: 20). The sample for the language attitude study includes students and teachers from both classical and technical schools. The classical schools are characterised by a very abrupt change of the language of instruction from German to French after the

first three years of secondary education. This transition phase represents an ideal point in time to investigate attitudes towards the various languages employed in Luxembourg's schools and the multilingual behaviour among students and teachers. Consequently, the classical school sample consists of students who are enrolled in their last year of German-medium education and students in their first year of French-medium education at the time of data collection. The technical schools are also characterised by changes in the medium of instruction policies after the first three years. However, due to the more vocational nature of this type of school, students are split into numerous different educational sections. In order to keep the sample at a manageable size, only students in their last year of German-medium education were included. This step was taken due to the impossibility of incorporating students from all sections after the changes of language of instruction policies. The sample was also stratified according to the geographical location of the participating schools. Informants were recruited from classical and technical schools located in the north, centre and south of Luxembourg. While the northern schools sampled for this study are within close proximity to the German border, the southern schools are located on the French border (Map 3.1). The central schools are all located in the capital, Luxembourg-city. In addition, both the south of Luxembourg and the region surrounding Luxembourg-city are more densely populated and more extensively industrialised than the traditionally rural areas of the north.



Map 3.1: Areas of the six secondary schools included in the sample of the attitudinal study.

A major concern of the research consisted of creating minimal disturbance in the daily school routine. Consequently, access was negotiated to different classes in the various schools where large numbers of students could be asked to fill in the attitude questionnaire simultaneously. The sampling technique is characterised by elements of random sampling. No exact numbers for the various gender and ethnic categories were established prior to the administration of the questionnaire. The author arranged with the headmaster of every school to gain access to two classes of students (20-25 students per class on average) of every type (classical pre-medium of instruction change, classical post-medium of instruction change, technical pre-medium of instruction change). This approach did not seek to assemble a sample entirely balanced according to the ethnicity and gender of the informants. Table 3.1 provides an overview of the distribution of the students sampled for the quantitative investigation of language attitudes. For ease of representation, only three major ethnic groups (Luxembourgish, Luxembourgish dual, Portuguese) are represented separately in this table. Students originating from other ethnic backgrounds have been included in the category labelled 'Other'. Further ethnic groups are represented by Italians (14), students from Ex-Yugoslavia (8), Germans (4) and students from France and French-speaking Belgium (8). Students were assigned to different ethnic categories based on responses they provided to open-ended questions regarding their nationality. Due to the high number of Luxembourgish students who claimed to have two nationalities a separate category labelled 'Luxembourgish dual' was employed for the categorisation of informants. These students typically have one Luxembourgish parent and one parent from a different ethnic background. As previously acknowledged (2.2.3), the categorisation of students into separate ethnic groups may constitute an oversimplification due to the possibility that students' perceptions of their own ethnic identities may be more fluid than the categories established by the researcher. However, a fairly rigid categorisation of students' ethnic backgrounds was necessary in order to account for ethnic diversity among the sampled population during the statistical analysis of the data. The data concerning students' nationality were categorical in nature, and a

flexible or continuous measurement of ethnicity could not be incorporated in the analysis of the data. In total 367 students from six state secondary schools were sampled for this study. In 2007, 31,289 students were enrolled in 27 secondary schools in Luxembourg (Statec, 2008: 41).

	Type of School	L	LD	P	Other
North	Classical	64	13	9	6
	Technical	17	2	12	6
Centre	Classical	61	15	1	17
	Technical	11	3	20	8
South	Classical	41	8	8	7
	Technical	13	4	16	5

Table 3.1: Distribution of students sampled for the quantitative investigation of language attitudes. L = Luxembourgish, LD = Luxembourgish dual nationality, P = Portuguese, Other = miscellaneous nationalities. N=367.

A sample of teachers working at the various schools was also asked to complete the attitude questionnaire. The researcher approached teachers in the staff room during breaks and free periods. All teachers took part on a voluntary basis. 43 teachers completed the questionnaire and the distribution of the teacher sample can be found in Table 3.2. The teachers' questionnaire responses will not be analysed in the context of this thesis but will provide the basis for postdoctoral research.

	Languages	Other subjects
North	12	4
Centre	13	6
South	5	3
Total	30	13

Table 3.2: Distribution of sampled teachers according to the location of the school and subject specialisation. (N=43)

3.5.2 Sample for the behavioural study

The time-consuming nature of ethnographic research is at the origin of the selection of only one school for the collection of language behaviour data. Access to the school was negotiated with the headmaster prior to the start of fieldwork. The project's particular interest in the change of the language of instruction from German to French has resulted in the inclusion of a longitudinal aspect into the research design. The data collection is split into three separate four-week periods. The initial data collection phase took place in May 2008 when the target group of students was at the end of their last year of German-medium education. The second data collection phase was carried out in October 2008 during the first month of French-medium education. The last data collection phase (May/June 2009) coincides with the end of the first year of French-medium education for the targeted students.

In collaboration with the headmaster a group of students, who at the time of the first data collection phase were enrolled in their last year of German-medium education, was selected. The group consists of 21 students who stay together as a class throughout the three data collection phases. These students spend their entire time at school together as a group. Classes of students frequently change in between different academic years due to administrative constraints and, therefore, particular attention was paid to gaining access to a group of students who would not be split into separate classes across the various fieldwork phases. The only group of students that were guaranteed to remain as a class between different academic years (i.e. fieldwork phases) were those who were enrolled in Latin education. A minority of students enrol in Latin classes in Luxembourg's secondary schools as high academic achievements constitute a prerequisite for the enrolment in this type of education. Consequently, the students participating in the ethnographic study are academically stronger than average and must be viewed as overachievers in the Luxembourg education system. The sample consists of 8 girls and 13 boys. The majority of the students are Luxembourgish nationals. The other nationalities represented in the class are Serbian (2), Macedonian (1), Russian (1), Italian (1), German (1) and French (1).

Prior to the start of the first data collection phase the headmaster set up a meeting with all the teachers of the chosen group of students. The investigator presented

the objectives of the research project and asked all teachers for their permission to carry out recordings in their lessons over a four-week period. Eight teachers (4 male, 4 female) gave their informed consent and access was granted to Biology, Geography, History, Religious Studies, English, Latin, German and French lessons. A similar meeting was held prior to the second data collection phase because informed consent had to be obtained from some new teachers. For the second and third phases of data collection access was granted to Geography, Biology, History, Physics, Maths, Art History, German and English classes. For History, Biology and English the teachers remain the same throughout the separate phases. For other school subjects teachers change between Phase A and Phase B.

3.6 Language behaviour data

3.6.1 Ethical considerations

After the obstacle of gaining access to informants has been overcome, ethnographers face the challenge of recording naturally-occurring speech without drawing too much attention to their presence. The researcher is confronted by the 'observer's paradox' which consists of the fieldworker's desire to record how people speak when they are not under observation (Labov, 1972). The choice of recording equipment has an important impact on the data. A major concern during the design of this study consisted of choosing a recording device which was capable of producing good quality speech data without intimidating students and teachers at the time of data collection. The option of video-recording classroom sessions was rejected on various grounds. Carrying out research in schools is heavily influenced by ethical considerations. When ethical approval was obtained from the Humanities and Social Sciences Ethics Committee at the University of York, it was established that the parents' written informed consent was not required as all participating students were at least 15 years old at the time of data collection. The students' and teachers' informed consent was deemed sufficient if classroom sessions were only audio-recorded and not video-recorded. Gaining informed consent from the parents of all 21 students was regarded as an extremely time-consuming and risky step. As students in Luxembourgish schools spend their entire time at school in fixed groups, the refusal to grant informed consent from

only one parent would have prevented the investigator from making any recordings in the classroom. Moreover, a video-camera was seen to be a more intimidating recording device than microphones; refraining from video-recording students and teachers, therefore, contributed to minimising the effects of the observer's paradox.

Classroom sessions were recorded on an M-Audio Microtrack II digital recorder and a small microphone was attached to a pillar at the front of the room. Different types of microphones were piloted before the actual recordings started and all efforts were made to reduce the size of microphone without compromising the quality of the recordings. The acoustics of the classroom were extremely beneficial and, therefore, the use of one small microphone was sufficient. The equipment was chosen in consultation with a sound engineer. Extensive notes were taken during the observation in order to be able to clearly identify each speaker on the recording.

3.6.2 Recording naturally occurring classroom interactions

Prior to the researcher's arrival at the school, the students had been informed that a researcher would come to their classroom and ask for their permission to attend and record their lessons during three repeated one-month-long visits. When first meeting the students the author introduced himself as a PhD student from the University of York and explained that he was interested in how secondary school students in Luxembourg use different languages in their daily lives. Students were made aware of the fact that the research involved audio-recording them during their time at school. Students were reassured that their anonymity would be protected and that they could withdraw their participation at all times. All students agreed to take part and provided their written informed consent.

The fieldworker mostly took on the role of observer-as-participant or complete observer and sat at the back of the classroom during the various lessons. In order to build a close relationship with the students, he insisted that they call him by his first name and refrain from using the second-person plural pronoun which increases the formality of an interaction and is typically employed as a marker of politeness in Luxembourgish, French and German. The interactions between the informants and the author were facilitated by the students' curiosity and the

excitement they felt that they had been chosen for this particular project. One hundred and one school lessons were recorded during the three data collection phases. One school lesson typically consists of fifty minutes. The author interacted with the students during breaks in between lessons and short informal group interviews were also carried out. Moreover, the participants completed the attitude questionnaire administered in five other schools in Luxembourg. The fieldworker was given full access to the staff room. Interactions between teachers and the investigator mainly took place after the lessons. Extensive fieldnotes were taken of these conversations if they could not be recorded. Some recorded interviews were, however, undertaken.

Due to the absence of a video-camera fieldnotes were taken during the lessons in order to facilitate the analysis of the data. Every student had a fixed seat in the classroom and the fieldworker produced a grid representing the seating order. This visual representation of the classroom ensured a fast familiarisation with the students' names and was only employed during the first few days of fieldwork. Every time a student spoke the author noted down their name as well as a few words which would help him recognise the passage on the recording. This note taking method was necessary in order to be able to assign the voices on the recordings to the different students in the classroom during the analysis of the data.

3.6.3 Experimental approach to the collection of code-switching data

Analysing naturally occurring classroom speech constitutes one of the major objectives of this study. By choosing unobtrusive recording equipment and taking on the role of an observer-as-participant or complete observer, the author ensured that the recorded classroom interactions are as natural as possible. Shin and Milroy (2000: 356), however, adopt a different approach in their study of conversational code-switching among Korean-English bilingual children. The fieldworker in their study adopted the active role of classroom assistant and spoke both English and Korean while interacting with the children. Shin and Milroy (2000: 356) explain that the fieldworker switched between English and Korean in order to investigate how children would react to utterances made in both English and Korean. This more intrusive approach allows the researcher to gain more control over the situation by actively creating opportunities for code-switching.

The increase in control described by Shin and Milroy (2000) is at the origin of the development of an experimental approach to the investigation of code-switching. In addition to recording naturally occurring classroom interactions the researcher asked students to participate in a multilingual map task.

The multilingual map task employed in this study consists of an adaptation of the map task developed for the HCRC Map Task Corpus (HCRC, www.hcrc.ed.ac.uk/maptask). The HCRC Map Task Corpus originates from an attempt to 'elicit unscripted dialogues in such a way as to boost the likelihood of occurrence of certain linguistic phenomena, and to control some of the effects of context' (HCRC, www.hcrc.ed.ac.uk/maptask). The map task is, therefore, a data collection tool which allows the researcher to gain control over the context in which the data are collected. The HCRC map task involves two participants, an 'Instruction Giver' (IG) and an 'Instruction Follower' (IF). Both participants are given a map and are instructed to conceal their maps from each other. The maps contain line drawings of landmarks or features labelled with names or descriptions. The IG is in possession of a map containing a route. The goal of the task is to reproduce the IG's route on the IF's map. The participants' instructions and examples of the maps can be found in Appendix B.

Prior to the start of the task the participants are made aware of the fact that the maps are not identical. Whereas some features are identical on both maps, others differ between the IG and IF's maps in one of three ways. Some features are present on both maps while others are absent on either the IG's or the IF's map. Alternatively, features can be identical in form and location but carry different names or labels. Finally, some features can appear twice on the IG's map while they are only represented once on the IF's map.

The multilingual map task employed in this study is governed by the same principles as the HCRC map task. The technique of assigning different names to features on the IG and IF's maps is adapted for code-switching research. While some features are labelled in French others are labelled in Luxembourgish. As a result of this procedure both maps contain features in two different languages and in many cases the label for a specific feature on the IF's map is in a different language than the label for the same feature on the IG's map. Prior to the start of the multilingual map task participants are given written instructions explaining

their respective roles of IG and IF and are explicitly instructed to carry out the task in French.

Having established French as the obligatory language of communication the researcher can manipulate the participants' language behaviour through the inclusion of Luxembourgish labels on the maps. Labelling certain features with Luxembourgish words constitutes a controlled attempt by the researcher to trigger a code-switch into Luxembourgish. The majority of labels contain multiple words and during the preparation of the maps care was taken to assign to the various features and landmarks labels which do not consist of commonly used words. This was done in order to avoid direct one-word translations. If, for example, the IG needs to describe a particular feature on his/her map which is labelled in Luxembourgish there are three possible outcomes. If the IG knows the French translation for the Luxembourgish label (s)he can make use of this knowledge and quickly overcome the obstacle without violating the established language of communication policy. As particular attention was paid to choosing labels consisting of uncommon or difficult words it is likely that the IG cannot directly translate the Luxembourgish label into French. In this case, the IG can either provide an extended description of the label in French or (s)he can use the Luxembourgish label and, therefore, code-switch into Luxembourgish. The multilingual map task aims to elicit whether small triggers such as landmark labels are sufficient to initiate code-switches into Luxembourgish and whether such code-switches are temporary or re-define the language of interaction.

The decision to ask participants to carry out the map task in French results from the attempt to mirror the monolingual language policies governing the majority of school subjects. The results from the multilingual map task can, therefore, contribute to the understanding of the characteristics of conversational code-switching. The participants' language behaviour during the multilingual map task can also be correlated with their behaviour during uncontrolled classroom interactions.

3.6.4 Methods for the analysis of recorded classroom interactions

The longitudinal aspect of the ethnographic study has resulted in a wealth of recordings. The interactions of 21 students and 16 teachers are distributed over

101 recorded school lessons (5052 minutes in total). A systematic approach to selecting and classifying the data is employed in order to obtain a manageable data set. First of all, the recordings contain different types of classroom interactions which cannot all be analysed in the same way. The data set is complicated further by the fact that different types of school subjects and lessons were recorded. Finally, the amount of speech produced by individual teachers and students varies considerably. As a consequence, different kinds of school lessons, types of interaction and individual speakers are assigned to various categories prior to the analysis of the data.

In Luxembourg's secondary schools every school subject is taught by a different teacher. Consequently, the choice of school subjects and the choice of teachers to be included in the analysis are linked. First of all, language classes are excluded from the analysis. The decision to focus on non-language subjects results from an attempt to aim the analysis at interactions where language is not the object of study but purely a means of communication for the students and teachers. Recordings from the following non-language subjects will be included in the analysis: history, biology, physics, mathematics, geography.

During both the fieldwork and an initial familiarisation with the recordings it was noted that teachers' code choice and their code-switching behaviour seemed to have an influence on students' language behaviour. Code-switching among students appeared to increase during lessons where the teachers engaged in code-switching themselves or at least showed a high degree of tolerance towards students' code-switching. Prior to the start of the analysis, teachers will, therefore, be separated into three categories based on their tolerance towards code-switching in the classroom: low tolerance towards CS, middle tolerance towards CS, high tolerance towards CS. Further details regarding the categorisation of teachers can be found in section 5.2. In total, thirty-two school lessons will be included in the analysis. Table 3.3 displays the distribution of lessons according to fieldwork phase and type of teacher.

	Low CS tolerance	Middle CS tolerance	High CS tolerance
Phase A	6	3	NA
Phase B	4	4	4
Phase C	3	4	4

Table 3.3: Distribution of school lessons according to fieldwork phase and type of teacher. Total = 32.

The change of the language of instruction from German to French in the second data collection phase constitutes the focal point of the study. The students' attitudes towards the introduction of French as a language of instruction as well as their self-assessed language competence in French are employed as criteria for the classification of students. Each student is assigned to one of the following four groups:

- Positive attitude towards the introduction of French and high self-assessed French language competence
- Positive attitude towards the introduction of French and low self-assessed French language competence
- Negative attitude towards the introduction of French and high self-assessed French language competence
- Negative attitude towards the introduction of French and low self-assessed French language competence

The information regarding those two criteria was obtained from the students' responses to the self-completion written questionnaire. The scores employed to classify the students' French language competence represent their self-perceived speaking abilities. The decision to focus on students' spoken as opposed to written language competence is related to the fact that the study focuses on the analysis of spoken interactions.

The first step consisted of classifying students' responses to the attitude statement into positive and negative categories and their responses to the competence question into high and low categories. Classification and Regression Tree (CART) analysis was employed in order to assign individual students to separate groups. CART is a statistical method capable of systematically assigning individual

measurements to separate classes (Breiman *et al.*, 1998: 3) and a form of binary recursive partitioning (Lewis, 2000: 4). CART creates nodes (parent nodes) which can be split into two further nodes (child nodes). Due to its recursive nature the binary partitioning process can be applied over and over again (Lewis, 2000: 4). So each parent node can be split into two child nodes; each of these child nodes can give rise to further child nodes. CART is characterised by the advantage that no assumptions are made regarding the distribution of the data. So Lewis (2000: 5) argues that ‘CART can handle numerical data that are highly skewed or multi-modal, as well as categorical predictors with either ordinal or non-ordinal’. Both the attitude and competence scores were calculated on a scale from 0 to 100 with a high score representing either a positive attitude or a high language competence. The measurements were undertaken through the use of the digital image processing software *ImageJ*. The raw measurements from the various magnitude continua were standardised in order to fit a scale ranging from 0 to 100.

During the partitioning of students into positive/negative attitude groups or high/low competence groups, the CART method takes into consideration the distribution of students’ responses. In other words, the cut-off point is not simply 50 on a scale from 0 to 100 but it can vary depending on whether students on average provide very high or very low responses. In fact, students’ attitudes and competence scores do not show the same distribution. While the overall mean for students’ attitude scores is 47.95 (Figure 2.4), the mean for language competence scores is considerably higher at 71.92 (Figure 2.5). The high language competence mean shows that on average students positively evaluated their French speaking abilities, even those students who have been assigned to the ‘low competence’ category. The attitude tree, on the other hand, reveals a more even distribution and a pronounced difference between the positive and negative groups of students.

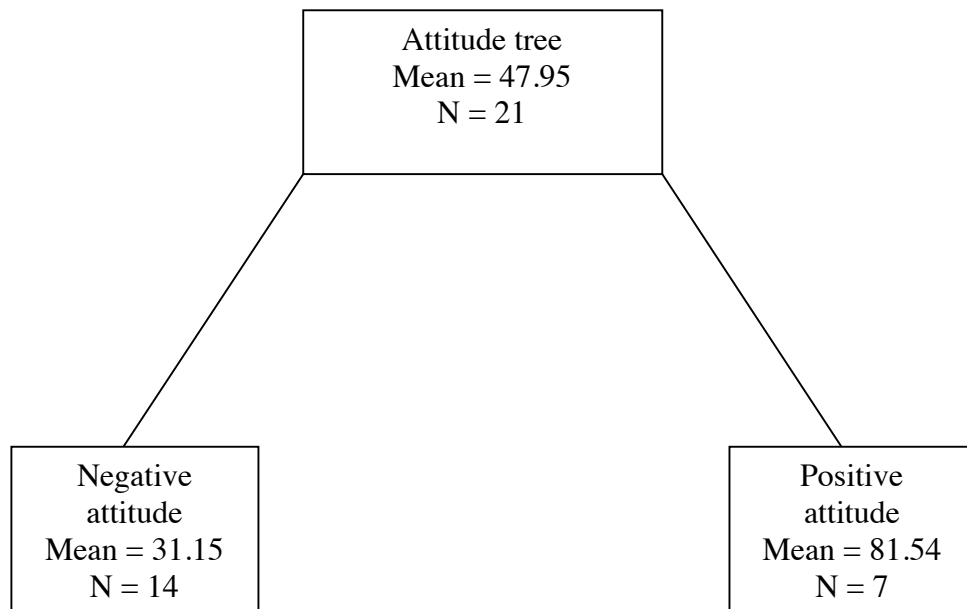


Figure 3.4: CART tree for the classification of students' attitudes towards French as a language of instruction. N = the number of students in each category. Total number of students = 21.

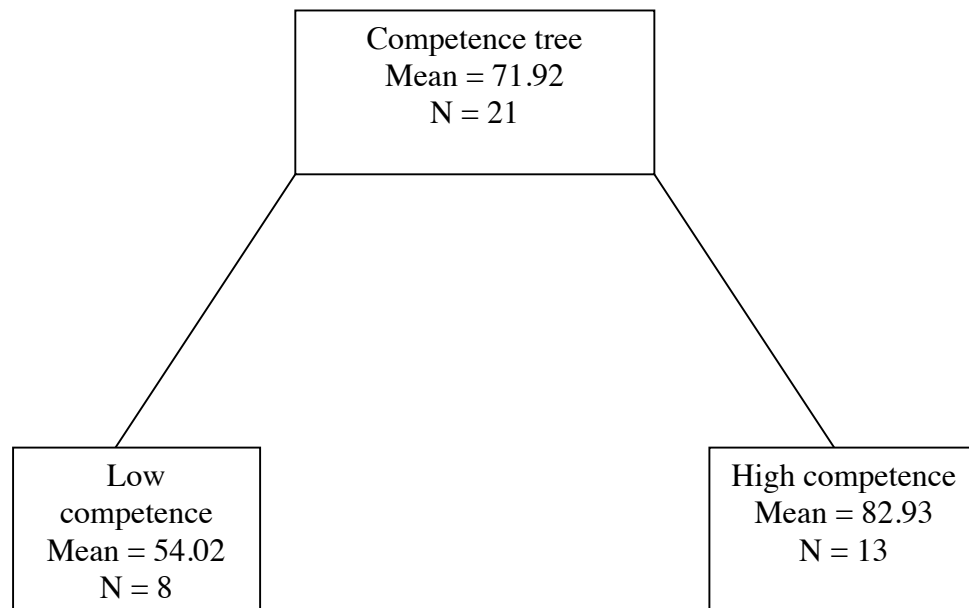


Figure 3.5: CART tree for the classification of students' French language competence scores. N = the number of students in each category. Total number of students = 21.

CART analysis, therefore, constitutes an efficient method for the classification of students and by showing the average for each node it also allows the analyst to gain insights into the distribution of the data. By combining the classifications of both trees, students could be assigned to one of the four categories outlined at the beginning of this section. Table 3.4 presents the final classification of the students.

	+ French Competence	– French Competence
+ Attitude towards introduction of French	SML124 SFY*4 SMF*1	SMY*3 SMI7
– Attitude towards introduction of French	SML131 SFG*2 SML129 SML126 SML127 SML130 SFL119 SFY*5 SML132 SML133	SFL118 SML*128 SFL117 SFL120 SFL121 SML125

Table 3.4: Classification of students according to their attitudes towards the introduction of French as a language of instruction and their self-assessed French language competence. S=student, M=male, F=female, L=Luxembourgish, Y=from Ex-Yugoslavia, F=French, G=German, I=Italian, *=dual nationality, number=number of informant in the sample.

By systematically approaching the recordings it is possible to include large amounts of data in the analysis. Moreover, the categorisation of students helps to overcome the uneven distribution of speech across students. If the analysis focussed only on a limited number of students the analyst could potentially be faced with a lack of data. In fact, students do not participate in equal amounts during every school lesson. A variety of external factors such as like or dislike of

the teacher, tiredness, interest (or lack thereof) in the taught subject can have a considerable impact on the individual student's degree of involvement in the classroom interactions. The objective classification of students according to certain criteria adds a clearly defined structure to the analysis of the data. Developing a systematic approach for the analysis of the data enables the researcher to gain control over the varied nature of naturally-occurring interactions.

The recorded data were transcribed and coded in accordance with the LIDES (Language Interaction Data Exchange System) coding manual developed by the LIPPS (Language Interaction in Plurilingual and Plurilectal Speakers) Group (2000). The contributors to the LIPPS Group (2000: 131) draw attention to the fact that many researchers who are in possession of multilingual data are faced with the frustration that there is no generally accepted method for transcribing this kind of data. The LIDES transcription conventions provide a solution to this source of frustration. LIDES is based on the CHILDES (Child Language Data Exchange System) system which consists of a database and transcription conventions for researchers working with child language (LIPPS Group, 2000: 136). Both the CHILDES system and the LIDES method make use of the CHAT (Codes for the Human Analysis of Transcripts) format for transcription as well as the CLAN programs for a large range of automated analyses. CLAN (Computerized Language Analysis) was designed to carry out automatic analyses of transcribed speech.

Within the CHAT transcription format each utterance is transcribed on a separate line which is referred to as the 'main tier'. The language of each word is indicated by the use of language tags (@1,@2). Additional tiers, referred to as 'dependent tiers', can be added for various purposes such as providing a gloss or a free translation. Dependent tiers can also be used to code grammatical, pragmatic or other information. Once the data have been transcribed and coded in the CHAT format the researcher can make use of the CLAN programs in order to carry out

automatic frequency counts or to search the data for patterns (LIPPS Group, 2000: 139). Frequency counts can be limited to specific speakers, which allows the analyst to make comparisons between individual speakers. The LIDES transcription conventions will be used in combination with the CLAN programs for automated analyses in order to obtain quantitative data regarding students and teachers' language behaviour inside the classroom.

3.7 Conclusion

Due to the dual focus on language attitudes and multilingual classroom behaviour, this study employs a mixed methods approach. Through a combined use of written questionnaires, recorded interviews, audio-recordings of naturally-occurring interactions and different experimental tasks, this research attempts to provide insights into the role of socio-psychological factors in the production of language in a multilingual educational context. Several data analysis and collection tools presented in this chapter constitute methodological innovations. While the magnitude continuum was specifically designed for the purpose of this study, other methods such as the IAT, the map task and the use of mixed-effects modelling originate from various research fields and have been integrated into the design of this study in an adapted form. The following chapters will present detailed analyses of language attitudes and of patterns of language choice and code-switching among students and teachers in Luxembourg.

4 Language attitudes of secondary school students in Luxembourg

4.1 Introduction

The recent negative evaluation of Luxembourg's education system by the Council of Europe (2006) as well as the extremely high fail rates among secondary school students (1.1) suggest that current educational policies may fail to take into account students' language attitudes and linguistic backgrounds. This chapter provides a detailed description of students' attitudes towards the various languages used in Luxembourg. The findings mainly originate from a large-scale study of language attitudes and self-reported language behaviour among students enrolled in both classical and technical secondary schools located in the north, centre and south of Luxembourg. As previously outlined, students from various ethnic backgrounds completed a language use and attitude questionnaire (3.4 and 3.5). In addition, findings from a small-scale experimental study (Implicit Association Test), focusing on implicit language attitudes (3.4.3), will be presented to complement the attitudinal patterns identified through the questionnaire study (i.e. investigation of explicit language attitudes). The Implicit Association Test was carried out with a limited sample of students and is employed in order to gain initial insights into implicit language attitudes. The findings primarily serve as pilot research for future investigations of language attitudes. In an attempt to gain insights into patterns of language use and language attitudes among a diverse group of secondary school students, this chapter therefore presents a series of analyses centring around the following research questions:

- To what extent are students multilingual? Which languages are spoken by students inside and outside of the educational context?

- What are students' attitudes towards current language of instruction policies?
- What are students' attitudes towards the use of Luxembourgish and French inside and outside of school?
- Do students from different ethnic backgrounds have different attitudes towards the various languages used in Luxembourg?
- Is there a connection between language attitudes and language behaviour?

First of all, details regarding students' self-reported language use will be presented in order to establish a linguistic profile of the sample (4.2). Patterns of language use at home and with friends will be compared with language of instruction preferences of students from various ethnic backgrounds. Students' choice of language for the completion of the questionnaire will be discussed and various other independent variables to be used during the statistical analysis of language attitudes will be identified and attention will be drawn to any collinear relationships between these variables (4.3.2). Language attitude scales focusing on affective and instrumental attitudes towards Luxembourgish and French as well as on the use of foreign languages in education and multiple languages of instruction will be statistically analysed (4.3). Finally, findings from an experimental Implicit Association Test (IAT) (3.4.3) will be presented and discussed in relation to the explicit attitudinal patterns identified through the questionnaire study (4.4).

4.2 Linguistic profile of secondary school students

In light of Luxembourg's inherent multilingualism (i.e. official recognition of Luxembourgish, French and German) and its heavy influx of migrants from various linguistic backgrounds (i.e. 41 percent of population are immigrants), this chapter attempts to establish the extent to which secondary school students sampled for this study consider themselves multilingual. During the completion of the questionnaire, students were required to list all the languages they are able to

speak. Their responses were not constrained by a pre-established list of languages from which they had to choose but students were given the freedom to include any languages they deemed part of their linguistic repertoire. The following languages were listed: Luxembourgish, French, German, Portuguese, English, Latin, Italian, Serbian, Macedonian, Croat, Russian, Spanish, Chinese, Dutch, Danish, Finnish, Arabic. Only 6 percent of students claim to speak three or fewer than three languages while the majority of the sample include 4 languages in their linguistic repertoire (53 percent) (Figure 4.1). 41 percent of students list as many as 5 or more languages. These figures establish the students sampled for the large-scale study of language attitudes as highly multilingual individuals and draw attention to the linguistically diverse nature of Luxembourg's secondary school students.

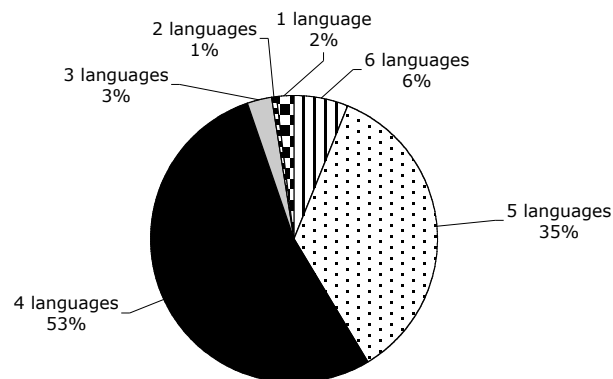


Figure 4.1: The number of languages spoken by all students sampled for this study.

Throughout this chapter, language attitudes and self-reported language use of students originating from the following ethnic groups will be considered in detail: Luxembourgish (LUX), Luxembourgish dual nationality (LUXDUAL), Portuguese (PORT), Ex-Yugoslavian (YUG), French (FR), German (GER) and Italian (ITAL). All remaining students were assigned to a miscellaneous category

labelled ‘Other’. While students from Portuguese, Italian or Ex-Yugoslavian backgrounds belong to Luxembourg’s major immigrant communities (Chapter 3), French and German students were included in the analysis in order to gain insights into the language use and attitudes of immigrants from Luxembourg’s neighbouring countries. Further details regarding the stratification of the sample can be found in section 3.5.1.

The high degree of multilingualism, displayed in Figure 4.1, is not entirely reflected in students’ language use at home. In fact, 97 percent of ethnically Luxembourgish students report that they solely employ Luxembourgish in the home (Figure 4.2). Students with Luxembourgish dual nationality, on the other hand, mostly speak Luxembourgish in combination with another language (i.e. French or a heritage language). As noted before (3.5.1), these students typically have one Luxembourgish parent and one parent from a different ethnic background (e.g. Portuguese or Italian) and, therefore, employ both Luxembourgish and the heritage language of their other parent (e.g. Portuguese or Italian) as home languages.

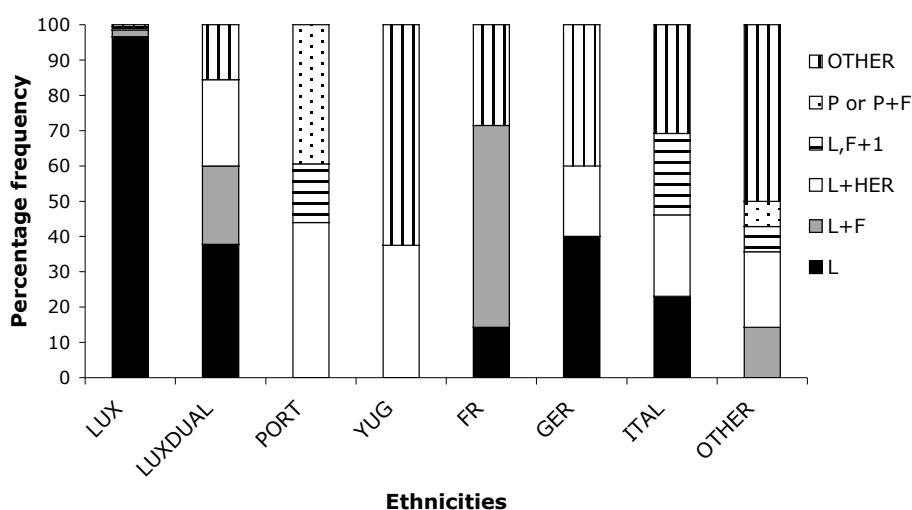


Figure 4.2: Languages spoken at home by students originating from different ethnic backgrounds. Black = Luxembourgish, grey = Luxembourgish + French, white = Luxembourgish + heritage language, vertical stripes = Luxembourgish, French + heritage language, dotted = Portuguese or Portuguese + French, vertical stripes = other.

Language use at home is much more varied for students from ethnic backgrounds other than Luxembourgish. The majority of Portuguese students employ Luxembourgish in combination with Portuguese, their heritage language (44 percent). While 39 percent speak Portuguese or a combination of Portuguese and French, as many as 16 percent interact in three languages which typically consist of Luxembourgish, French and Portuguese. The joint use of three languages is also common among Italian students. While the vast majority of French students speak only French at home, German students largely speak Luxembourgish on its own or in conjunction with their heritage language, German. Finally, students originating from Ex-Yugoslavia mostly speak their heritage language at home (62.5 percent). These figures draw attention to the fact that all students except ethnically Luxembourgish students engage in multilingual language practices at home. The inherent multilingualism of Luxembourg (i.e. official recognition of Luxembourgish, French and German) is therefore rarely manifested in the home of Luxembourgish nationals as can be seen through their almost exclusive use of Luxembourgish.

While students originating from various immigrant communities extensively use their heritage languages at home, they also frequently make use of Luxembourgish on its own or in combination with other languages. In fact, students from all ethnic backgrounds employ Luxembourgish to some extent as a language of communication at home (Figure 4.3). The sole use of Luxembourgish or of a combination of Luxembourgish with another language constitutes the most frequent medium of communication for the majority of students from all ethnic backgrounds except for those originating from Ex-Yugoslavia or miscellaneous other backgrounds (Figure 4.3). These patterns of language use draw attention to the fact that Luxembourgish does not solely function as a home language for ethnically Luxembourgish students but that various immigrant communities have adopted Luxembourg's national language as a medium of communication at home.

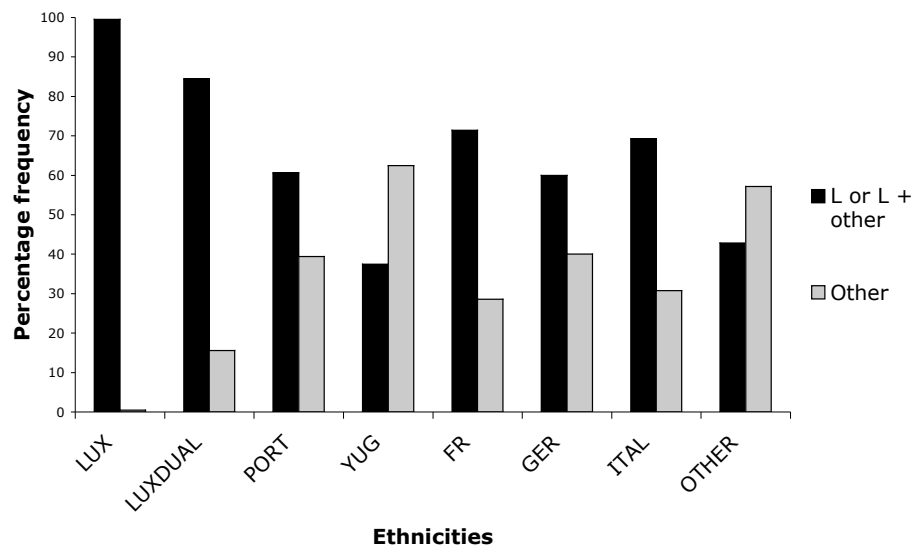


Figure 4.3: Use of Luxembourgish at home in comparison with other languages spoken at home by students from different ethnic backgrounds. Black = Luxembourgish or a combination of Luxembourgish with other language(s), grey = other language(s).

The language use and attitude questionnaire also investigated students' use of languages with their peers and friends and the quantification of their responses reveals that Luxembourgish constitutes the most widely used medium of communication in friendship groups (Figure 4.4). For the majority of students from all ethnic groups (except Portuguese students) Luxembourgish functions as the sole medium of communication when interacting with friends or peers. Portuguese students, on the other hand, largely employ Portuguese in conjunction with Luxembourgish or in conjunction with French and Luxembourgish. All students, regardless of their ethnic background, employ Luxembourgish to some extent when interacting with friends and/or peers (Figure 4.4). This pattern of language use substantiates both the monolingual language behaviour of ethnically Luxembourgish students and the extensive use of Luxembourgish by students from different ethnic backgrounds outlined during the quantification of students' language use at home (Figure 4.2).

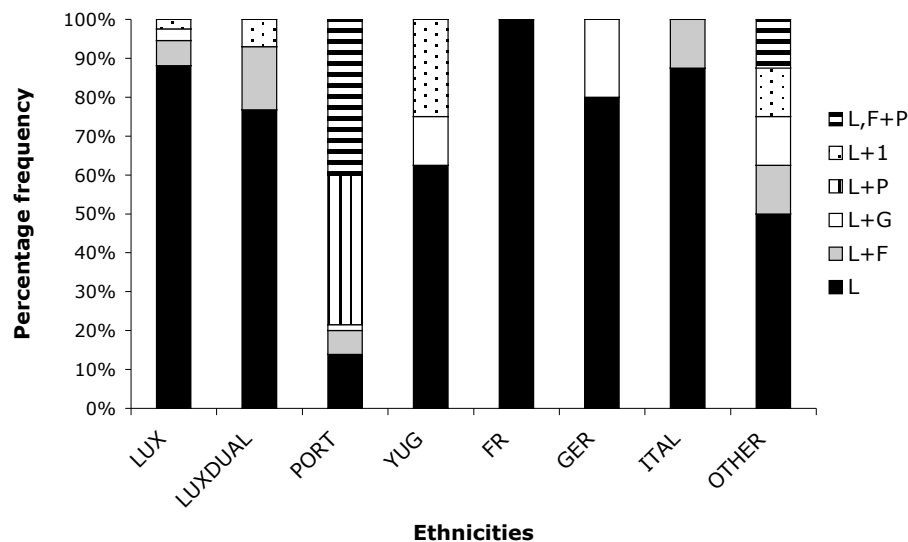


Figure 4.4: Languages spoken with friends by students from different ethnic backgrounds. Black = Luxembourgish, grey = Luxembourgish + French, white = Luxembourgish + German, vertical stripes = Luxembourgish + Portuguese, dotted = Luxembourgish with one other language, horizontal stripes = Luxembourgish, French + Portuguese.

As previously discussed, current medium of instruction policies discourage the use of Luxembourgish inside the classroom. However, an investigation of students' language of instruction preferences demonstrates that the extensive use of Luxembourgish outside the educational context (i.e. at home and with friends) seems to have an influence on students' attitudes towards language use inside the classroom. In fact, 75 percent of all students claim that Luxembourgish, either on its own or in conjunction with other languages, constitutes their preferred medium of instruction (Figure 4.5). 42 percent of students express a desire to be taught in Luxembourgish alone. Only 1 percent of students regard the joint use of French and German (i.e. the current medium of education policy) as an ideal medium of instruction option. Overall, the majority of students (63 percent) display preferences for Germanic languages of instruction (Luxembourgish, German or a combination thereof).

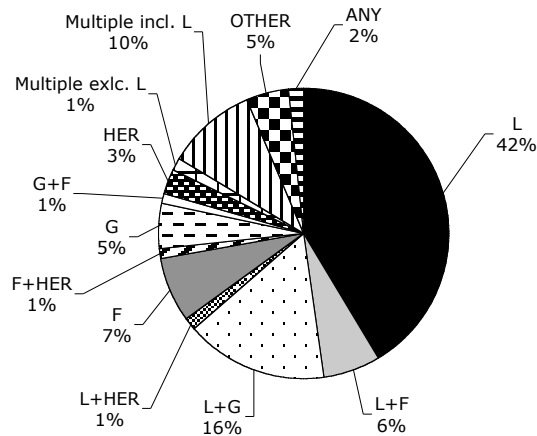


Figure 4.5: Students' self-reported language of instruction preferences.

L = Luxembourgish, L+F= Luxembourgish + French, L+G = Luxembourgish + German, L+HER= Luxembourgish + heritage language, F = French, F+HER = French + heritage language, G = German, G+F = German + French, HER = heritage language, Multiple excl. L = multiple languages excluding Luxembourgish, Multiple incl. L = multiple languages including Luxembourgish.

For ease of representation, only the language of instruction preferences of the three largest ethnic groups included in the sample (i.e. Luxembourgish, Luxembourgish dual nationality and Portuguese) are presented in detail in Table 4.1. Ethnically Luxembourgish students display clear preferences for a Germanic medium of education (i.e. Luxembourgish, German or combination thereof). While the use of French or a combination of French and Luxembourgish as a medium of instruction is popular among students holding Luxembourgish dual nationality, 53.4 percent still express a desire to be taught in a Germanic language (i.e. Luxembourgish, German or a combination thereof). The majority of Portuguese students (54.7 percent) include Romance languages (i.e. French or Portuguese) in their list of preferred media of instruction. However, 28.1 percent of Portuguese students establish the sole use of Luxembourgish as their preferred medium of instruction in addition to 31.2 percent of Portuguese students who express a desire to be taught in a combination of languages including Luxembourgish.

	Luxembourgish	Luxembourgish dual	Portuguese
Luxembourgish	50.2	37.8	28.1
Lux. + French	1.4	13.3	17.2
Lux. + German	21.2	8.9	4.7
Lux. + heritage language	0.5	0	6.2
French	3.4	6.7	14.1
French + heritage language	0	0	3.1
German	6.3	6.7	0
German + French	1	0	1.6
Heritage language	NA	0	12.5
Multiple excluding Lux.	0.5	2.2	1.6
Multiple including Lux.	10.1	15.5	3.1
Other	4.4	6.7	4.7
Any	1	2.2	3.1
Total	100	100	100

Table 4.1: Self-reported language of instruction preferences of the three largest ethnic groups included in the sample (i.e. Luxembourgish, Luxembourgish dual nationality, Portuguese).

The strong desire for the recognition of Luxembourgish (on its own or in conjunction with other languages) as a medium of instruction gives rise to the question of how frequently students employ Luxembourgish in the face of the current medium of instruction policies prescribing the use of either French or German. During the completion of the language use and attitude questionnaire, students were required to indicate to what extent they speak Luxembourgish inside the classroom on a magnitude continuum anchored with the labels ‘always’ and ‘never’ on opposite ends of the scale. On average, students claim to use Luxembourgish in 68 percent of classroom interactions. No apparent differences in the self-reported use of Luxembourgish can be identified in the responses of students from different ethnic backgrounds (Figure 4.6). Students’ perceptions of their own language use inside the classroom demonstrate that the widespread desire for the inclusion of Luxembourgish as a medium of instruction is manifested in students’ reports of actual language behaviour.

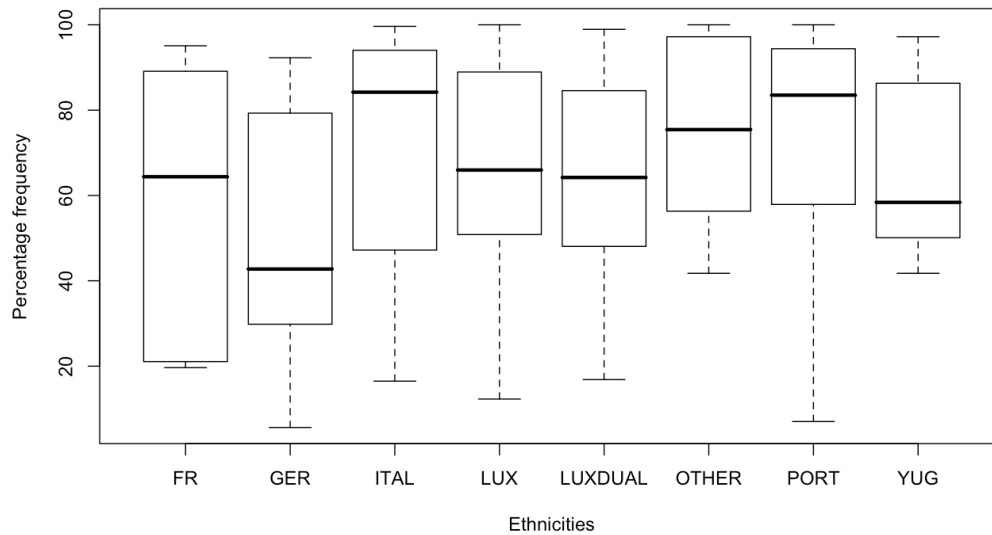


Figure 4.6: Self-reported use of Luxembourgish inside the classroom by students from different ethnic backgrounds.

Finally, during the data collection students were offered a choice of language (Luxembourgish, French or German) for the completion of the questionnaire. This approach was taken in order to avoid introducing a bias into the data and to gain insights into students' language preferences manifested through behaviour as opposed to self-reports. 51 percent of students opted for a Luxembourgish questionnaire compared with 31 and 18 percent of students who filled in German and French questionnaires respectively. The high proportion of students choosing a Luxembourgish questionnaire emerges as an unanticipated finding. Students completed the questionnaire inside the classroom, an environment where the use of Luxembourgish is actively discouraged. Moreover, Luxembourgish is rarely used in writing in Luxembourg's schools and students report extensive difficulties with the learning and use of the Luxembourgish orthography (Figure 4.7). Students were asked to express the level of difficulty they have experienced when learning to write German, French and Luxembourgish on a magnitude continuum anchored with the labels 'easy' and 'difficult' on opposite ends of the scale. Figure 4.7 displays that students face the most difficulties when learning to write

Luxembourgish. The acquisition of French and particularly German orthographies emerges as a less challenging task for students. Due to this discrepancy in ease of learning, German was expected to emerge as the most frequently chosen language for the completion of the language use and attitude questionnaire.

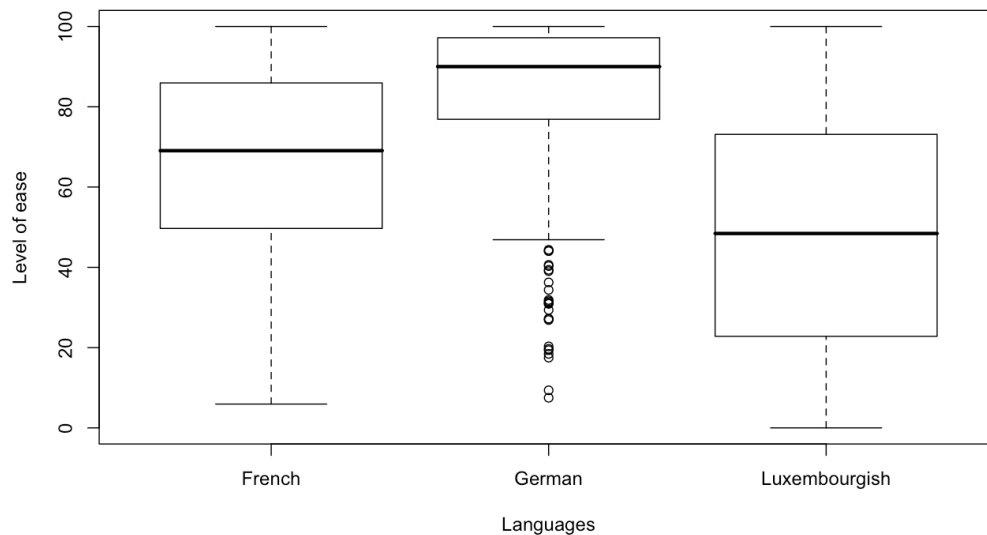


Figure 4.7: Students' self-reported level of ease when learning to write French, German and Luxembourgish. 100 = 'easy', 0 = 'difficult'. Horizontal line = median; box = middle 50 percent of data; whiskers = 1.5 times the interquartile range.

To sum up, the quantitative analysis of self-reported language use demonstrates that students from immigrant backgrounds engage more extensively in multilingual language practices outside the educational context than their Luxembourgish peers who almost exclusively employ Luxembourgish as a medium of communication at home and with friends. However, students from the various immigrant communities also frequently speak Luxembourgish with friends as well as with members of their family at home. Luxembourgish also emerges as the most commonly listed medium of instruction preference and the analysis of students' self-reported language use inside the classroom draws attention to the fact that despite current medium of instruction policies prescribing the use of either French or German, Luxembourgish extensively features as a medium of communication in classroom interactions. Students' frequent choice of

Luxembourgish for the completion of the questionnaire despite their apparent learning difficulties with the Luxembourgish orthography emphasises their desire for the recognition of Luxembourgish as a medium of instruction. Some of the motivations underlying these complex multilingual language practices will be investigated in the following analysis of students' language attitudes (4.3).

4.3 Language attitudes

4.3.1 Analysis of grouped attitude statements

In addition to questions regarding language used inside and outside of the educational context and language of instruction preferences, students were required to indicate their level of agreement or disagreement with a collection of attitude statements concerning the various languages used in Luxembourg. The responses to the attitude statements were measured through the use of the magnitude continuum and the first step of the analysis consisted of converting the paper copies of all questionnaires into digital images through scanning. 2,569 pages were digitised by a scanner equipped with an automatic document feeder. The scanner automatically compiled individual questionnaire pages into one multiple-page PDF file. This was then separated and converted into JPEG files containing one questionnaire page per file. This procedure was necessary in order to be able to measure the informants' self-positioning on the magnitude continua through the use of the digital image processing software *ImageJ*.

Each questionnaire contains 55 magnitude continua. In total 22,275 magnitude continua were measured in *ImageJ*. The measuring procedure consists of placing the cursor at the starting point of the magnitude continuum and pulling it across horizontally (from left to right) until it meets the informant's self-positioning on the continuum which is indicated by a vertical line. The measuring function of *ImageJ* automatically transfers the measured distance into a spreadsheet. This

procedure was repeated for each magnitude continuum. All measurements were converted into a scale ranging from 0 to 100.

The attitudinal data from the self-completion written questionnaires were analysed through hypothesis testing with linear mixed-effects models as explained in section 3.3.2. In hypothesis testing, a research hypothesis, or in this case a mixed-effects model, predicts a difference between distributions whereas the null hypothesis, or null model, predicts that they are the same (Hinton, 2004: 41). By comparing a mixed-effects model with the null model it can be tested whether there is a statistically significant difference between the two models. For example, potential differences in the responses of the various ethnic groups can be analysed by comparing a mixed-effects model of ethnicity with the null model through a likelihood-ratio chi-squared test.

P-values resulting from likelihood-ratio chi-squared tests have been described as 'anti-conservative' (Pinheiro & Bates, 2000: 88). Anti-conservative p-values may be deceptively low. In other words, a hypothesis test with a mixed-effects model can yield a significant p-value even in cases where there is no actual difference between two models. The vast majority of significant p-values which were found in the analysis of the data for this study are less than 0.0001. Due to the extremity of the values, they were regarded as statistically significant despite the fact that they could be anti-conservative. In cases where p-values were more than 0.01, the Markov chain Monte Carlo (MCMC) sampling method was undertaken. An MCMC constitutes an alternative method for hypothesis testing with mixed-effects models. The p-values resulting from MCMC sampling are not known to be anti-conservative. The cut-off point was chosen in consultation with statisticians and was put in place, as Markov Chain Monte Carlo (MCMC) simulations on low p-value results can take several days to run. However, MCMC simulations were carried out on a small sample of results with $p < 0.0001$ in order to check that they were all significant. All results sampled were significant after simulations. In all cases where a likelihood-ratio chi-squared test gave a p-value between 0.01 and

0.05, the MCMC also gave a statistically significant result. Consequently, p-values from the likelihood-ratio chi-squared tests were accepted despite the fact that they may occasionally be anti-conservative.

As explained in section 3.3.2, mixed-effects models enable the researcher to analyse grouped data. Due to the shortcomings associated with using single statements or questions for the study of attitudes (3.3.1) individual attitude statements were grouped before statistical analysis. The transparency of mixed-effects models (3.3.2) allows the researcher to group any statements as no overall score for a given group of statements is calculated and the responses to individual questions remain visible throughout the analysis. Seven groups of statements were formed out of the 23 attitude statements included in the questionnaire. Grouping the statements is exploratory in nature and numerous possibilities of groupings exist. The exact groupings of the statements largely depend on the interest of the study. Details regarding the various identified areas of interest and their statement groups will be presented in section 4.3.3.

4.3.2 Identifying independent variables

The effects of the following four independent variables on students' language attitudes will be investigated in the upcoming statistical analysis of students' language attitudes (4.3.3): ethnic background, choice of language for the completion of the questionnaire (Luxembourgish, French, German), location of school (north, centre, south) and type of school (classical, technical). Due to Luxembourg's high immigration rate (4.2) and the ensuing inclusion of a high proportion of students from various immigrant communities in the sample for this study, the effects of students' ethnic backgrounds on their language attitudes will be investigated. The geographical location of students' schools (i.e. north, centre, south) will be included as a further independent variable in the statistical analysis in order to reveal any regional differences in language attitudes. In addition, potential attitudinal discrepancies among students enrolled in classical or

technical secondary schools will be disclosed. Finally, the effects of students' choice of language for the completion of the questionnaire (i.e. Luxembourgish, French or German) on their language attitudes will be investigated in order to gain further insights into the connection between language attitudes and language behaviour. This final independent variable fulfils a dual function as it provides both a measurement of language preference and of language behaviour (3.4.2).

An initial exploration of the data revealed that some of the independent variables showed significant relationships amongst each other. For example, the ethnicities of the students are not evenly distributed among classical and technical schools (Figure 4.8). While the majority of Luxembourgish, French, German and Luxembourgish dual nationality students attend classical secondary schools, their Portuguese and Italian peers are largely enrolled in technical secondary schools. Ethnicity and type of school are, therefore, related (i.e. collinear). This relationship was statistically established through the use of a chi-squared test ($p < 0.001$). Chi-squared tests were carried out as both the independent and dependent variables are categorical. Further details regarding this collinear relationship can be observed in Figure 4.8 which consists of a mosaic plot. In addition to statistically assessing the overall relationship between two categorical variables such as ethnicity and type of school (i.e. p-value resulting from chi-squared tests), mosaic plots visualise further details regarding the relationships between the different levels (e.g. Luxembourgish, Portuguese etc. for ethnicity; technical and classical for type of school) of the overarching categorical variables (e.g. ethnicity and type of school) (Meyer *et al.*, 2003: 5). Colour differences in light blue or light red signal statistical significance at the 5% level ($p < 0.05$). Fully saturated cells (i.e. dark blue and red) display statistical significant at the 1% level ($p < 0.01$). While the pattern of distribution across classical and technical schools is highly significant for Portuguese students (dark red and dark blue tiles), the distribution of French and German students, for example, is not statistically significant as is signalled through the absence of coloured tiles.

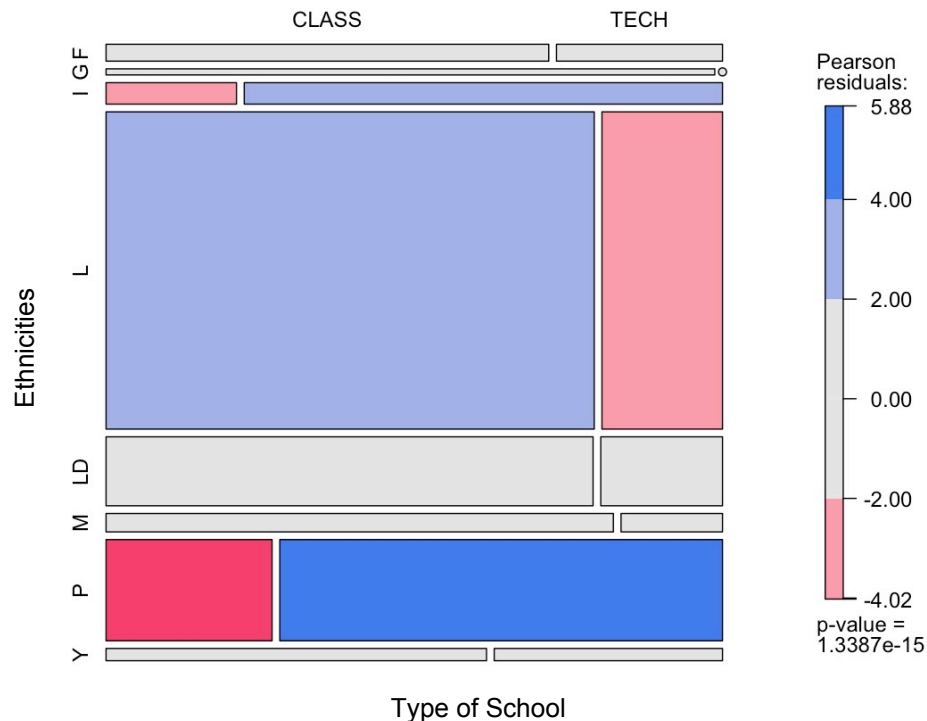


Figure 4.8: Relationship between the students' ethnic background and the type of school in which they are enrolled. Chi-square test reveals a significant relationship between ethnicity and type of school ($p < 0.001$). For type of school, CLASS = classical, TECH = Technical. For ethnicities, F = French-speaking, G = German, I = Italian, L = Luxembourgish, LD = Luxembourgish dual, M = miscellaneous, P = Portuguese, Y = from Ex-Yugoslavia. The sizes of the mosaic tiles are proportional to the numbers of informants in each category.

In addition to the collinear relationship between students' ethnic background and the type of school they are enrolled in, their ethnicity is also related to their choice of language for the completion of the questionnaire (Figure 4.9). This relationship is particularly visible when comparing Luxembourgish students with their Portuguese peers. Whereas Luxembourgish students largely opted for a Luxembourgish questionnaire, Portuguese students showed a clear preference for French questionnaires. Italian and French students also preferred French

questionnaires. Students from Germany and Ex-Yugoslavia, on the other hand, largely opted for German questionnaires. Both Luxembourgish and German questionnaires were frequently chosen by students with Luxembourgish dual nationality. However, there is also an increase in the number of French questionnaires chosen by Luxembourgish dual students when compared to their Luxembourgish peers. The collinear relationship between ethnicity and choice of language for the completion of the questionnaire is statistically highly significant ($p < 0.01$, chi-squared test) and details regarding the relationships between the various levels of the two categorical variables are visualised in Figure 4.9.

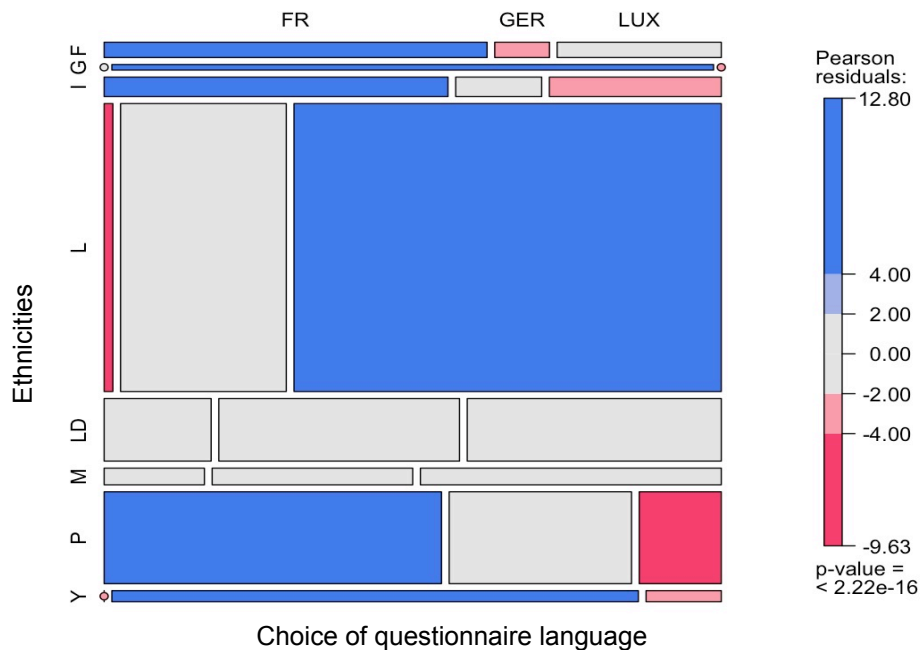


Figure 4.9: Relationship between the students' ethnic background and their choice of questionnaire language. Chi-square test reveals a significant relationship between ethnicity and choice of questionnaire language ($p < 0.001$). For choice of questionnaire language, FR = French, GER = German, LUX = Luxembourgish. For ethnicities, F = French-speaking, G = German, I = Italian, L = Luxembourgish, LD = Luxembourgish dual, M = miscellaneous, P = Portuguese, Y = from Ex-Yugoslavia. The sizes of the mosaic tiles are proportional to the number of informants in each category.

As explained in section 3.3.2, the independent variables are included as fixed effects in the mixed-effects model and both the individual informant and the individual statements which are part of the statement group under investigation are included as random effects. Due to the collinearity between ethnicity and type of school as well as between ethnicity and choice of language for the completion of the questionnaire, particular attention will be paid to establishing which of the independent variables have significant effects in their own right for each group of attitude statements and do not simply emerge as statistically significant due their collinear relationship with other significant model parameters (i.e. independent variables). This concept will be explained in more detailed and illustrated with an example in section 4.3.3.

4.3.3 Affective attitudes towards Luxembourgish as a language of identity

The investigation of the affective component of attitudes towards Luxembourgish and of a possible connection between Luxembourgish and a Luxembourgish identity constitutes the focus of the first statement group. The group is composed of the following three statements:

N: ‘It would be sad if Luxembourgish disappeared in the future’

P: ‘Luxembourg will lose its identity if we lose the Luxembourgish language’

W: ‘Luxembourgish is the most important language in Luxembourg because it is the language of the country’

These statements were grouped as they all focus on affective attitudes towards Luxembourgish. The measurement of agreement/disagreement with statements N and P enables us to gain insights into informants’ emotional attachment to Luxembourgish. Statement W was included in this group, as it relates to a commonly expressed idea by Luxembourgish citizens that Luxembourgish is ‘our’ language (i.e. the only language that specifically belongs to Luxembourg).

For this group of attitude statements all four independent variables or model parameters (i.e. ethnicity, choice of language, location of school, type of school) were significant when compared with a null model through a likelihood ratio chi-squared test. However, as explained in section 4.3.2, particular attention was paid to the possibility of collinearity between independent variables. Due to the collinearity between type of school and ethnicity (4.3.2), further models were compared in order to determine whether ethnicity and type of school were significant model parameters in their own right or whether, for example, type of school only emerged as a significant parameter due to its collinear relationship with ethnicity. When comparing a model of school, in which the effects of ethnicity were removed, with a model of ethnicity, school did not emerge as a significant model parameter. On the other hand, when comparing a model of ethnicity, in which the effects of school were removed, with a model of school, ethnicity emerged as a significant parameter ($p < 0.001$, likelihood ratio chi-squared test). By comparing these various models it was possible to establish ethnicity as the model parameter that has a significant effect on the informants' responses in its own right. Type of school, on the other hand, does not have a significant effect in its own right on the informants' responses.

Despite the statistically significant differences in the attitudinal responses of the various ethnic groups, the majority of students report positive affective attitudes towards Luxembourgish. Luxembourgish students as well as students with Luxembourgish dual nationality display the most positive affective attitudes towards Luxembourgish (Figure 4.10). The attitudes among all other ethnicities are slightly less positive. Portuguese and French-speaking students report the most negative affective attitudes towards Luxembourgish.

Mixed-effects models do not sum or mean the values from a group of statements, but instead consider each value, i.e. statement, individually. Therefore, when responses to statements have been presented as figures, individual questions have been plotted separately in order to be consistent with the modelling approach (e.g.

Figure 4.10). Throughout this chapter, differences in responses to individual questions will be described and attention will be drawn to interesting within-group response patterns. However, no statistical tests have been carried out on these within-group patterns. The p-values resulting from the mixed-effects modelling analysis only apply to the various fixed effects included in the analysis (i.e. ethnicity, type of school, location of school, choice of questionnaire language). The differences in responses to individual questions were not statistically tested, as it is common practice in attitude research to assess responses to groups of attitude statements which conceptually focus on the same underlying idea (see 3.3.1 for the rationale behind this approach). The decision to focus on groups of attitude statements is also in agreement with the definition of attitudes as an underlying concept which is deduced from multiple statements that an individual makes with respect to a given attitude object (2.3.3 and 3.3.1). Consequently, the insights which can be gained from investigating responses to individual attitude statements are limited from the perspective of attitude theory and so statistical tests were not undertaken to compare individual statements within groups. Nevertheless, trends in responses to individual questions will be described throughout this chapter as they can provide additional, albeit limited, information which may allow us to gain a fuller understanding of the overall attitudes under investigation. However, the weight of these trends should not be overestimated.

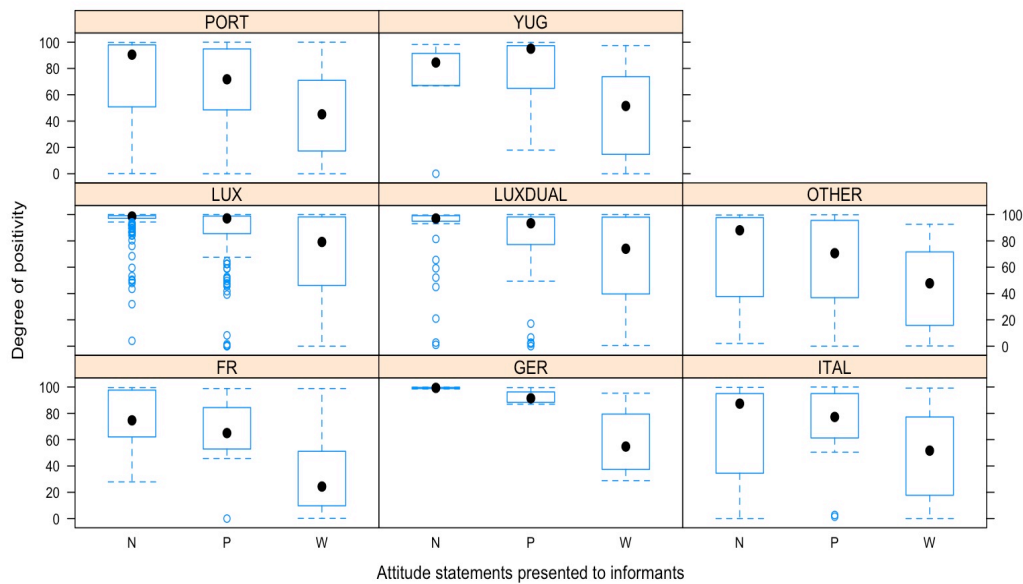


Figure 4.10: Affective attitudes towards Luxembourgish among students from different ethnic groups. PORT = Portuguese, YUG = from Ex-Yugoslavia, LUX = Luxembourgish, LUXDUAL = Luxembourgish dual nationality, FR = French-speaking, GER = German, ITAL = Italian, OTHER = other nationalities. Likelihood-ratio chi-squared test reveals a significant difference between the various ethnic groups ($p < 0.001$).

In all figures, the dot within the box represents the median. The box displays the interquartile range and the whiskers 1.5 times the interquartile range. Outliers, therefore, consist of data points that lie outwith 1.5 times the interquartile range. If there are no values outwith 1.5 times the interquartile range, the whiskers represent the highest and lowest points in the data set. In Figure 4.10, there is a general decline in degree of positivity from statement N to P to W in all ethnic groups, with statement W always having the lowest agreement. For all ethnic groups agreement is lowest with statement W (‘Luxembourgish is the most important language in Luxembourg because it is the language of the country’). Statement N which focused on the potential disappearance of Luxembourgish (‘It would be sad if Luxembourgish disappeared in the future’) receives the highest degree of agreement among all ethnic groups. For this statement, very little variance can be found among informants with Luxembourgish and Luxembourgish dual nationality. The same pattern can be observed among

German students; however, this is mainly due to the limited number of informants in this group (see section 3.5.1).

Affective attitudes towards Luxembourgish also vary among students who chose different languages to fill in the attitude questionnaire which was revealed through a hypothesis test with a mixed model that included the students' choice of questionnaire language as a fixed effect ($p < 0.001$). Due to the collinearity of ethnicity and choice of questionnaire language (3.3.2, Figure 3.9) further models were compared in order to reveal if one of these independent variables had a more significant effect on the students' responses than the other. When comparing a model of ethnicity in which the effects of choice of language were removed with a model of choice, a significant result was found ($p < 0.001$). However, the comparison between a model of 'choice of language' in which the effects of ethnicity were removed also yielded a significant p-value ($p < 0.001$). Consequently, it is impossible to establish statistically which variable has the stronger effect on the students' responses.

The affective attitudes towards Luxembourgish were most positive among students who opted for a Luxembourgish questionnaire (Figure 4.11). The attitudes of the students who chose a German questionnaire differ only slightly from those who preferred a Luxembourgish one. Attitudes are least positive among students who filled in a French questionnaire. All three groups show a similar response pattern to individual statements. Attitudes towards Luxembourgish as the most important language in Luxembourg, which were assessed specifically by statement W, are least positive among students in all three categories. The same pattern was found among the various ethnic groups. Hypothesis testing with mixed-effects models was carried out for all statement groups. In the following sections, independent variables are only reported as significant model parameters if it was possible to establish that their effect on the informants' responses was significant in its own right and not due to their relationship with another independent variable.

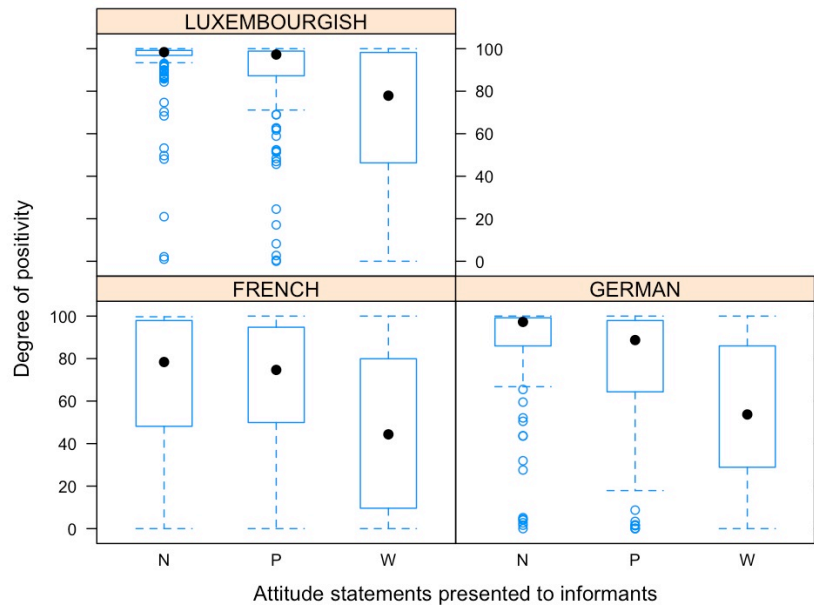


Figure 4.11: Affective attitudes towards Luxembourgish among students who chose different questionnaire languages. Likelihood-ratio chi-squared test reveals a significant difference between the different groups ($p < 0.001$).

4.3.4 Attitudes towards learning Luxembourgish

Due to the study's educational focus, the investigation of students' affective attitudes towards Luxembourgish (4.3.3) was complemented by an analysis of attitudes towards the importance of learning Luxembourgish. Responses to the following three statements were used in order to reveal attitudinal patterns among the students sampled for this study. For the purposes of the statistical analysis, informants' response scores to certain statements were reversed so that a high response score always reflects an informant's positive attitude towards a given target object. For example, responses to statement G (displayed below) were reversed so that high scores represent a positive attitude towards the importance of learning Luxembourgish. In other words, high response scores (after the reversal) signify disagreement with the idea that learning foreign languages is more important than learning Luxembourgish.

G: ‘Learning foreign languages such as French and German is more important than properly learning Luxembourgish at school’

I: ‘Luxembourgish should be taught properly at school as a major subject’

S: ‘Everyone in Luxembourg should be able to write Luxembourgish’

These statements were grouped in order to enable us to look at people’s attitudes towards the importance of learning Luxembourgish from slightly different perspectives. While statements G and I focus on the role of learning Luxembourgish in an educational context, statement S pays attention to the importance of learning to write Luxembourgish.

During hypothesis testing with mixed-effects models, type of school and location of school did not emerge as having a significant effect on the students’ attitudes towards learning Luxembourgish. On the other hand, ethnicity and choice of questionnaire language were significant parameters in the model when compared with a null model. Due to the collinearity between students’ ethnic background and their choice of questionnaire language (4.3.2, Figure 4.9), further models were compared in order to establish which of the two parameters had a significant effect in its own right. The comparison of a mixed model of ethnicity in which the effects of choice of language were removed with a model of choice of language yielded a significant p-value ($p < 0.001$). This result establishes ethnicity as a significant model parameter in its own right. However, choice of language also remained a significant parameter when the effects of ethnicity were removed from the model. The p-value from this likelihood-ratio chi-square test was even lower ($p < 0.0001$). Statistically, both ethnicity and choice of questionnaire language are significant model parameters; however, as is shown by the lower p-value, students’ choice of questionnaire language has a stronger effect on their reported attitudes than their ethnic background.

Students’ attitudes towards learning Luxembourgish (Figure 4.12) are less positive than their affective attitudes towards Luxembourgish as a language of

identity and Luxembourg's most important language (Figure 4.10). Luxembourgish and German students report the most positive attitudes towards the importance of learning Luxembourgish. Students with Luxembourgish dual nationality attribute less importance to learning Luxembourgish than their Luxembourgish peers. The most negative attitudes can be found among French, Portuguese and Italian students. In most ethnic groups, there is a general increase in positivity, ranging from statement G to I to S. The idea that everyone should be able to write Luxembourgish, assessed by statement S, receives the most positive attention from the majority of ethnic groups. German and Italian students, on the other hand, express their highest degree of agreement with the importance of properly teaching Luxembourgish at school as a major school subject. Students from all ethnic backgrounds report the most negative attitudes towards the importance of learning Luxembourgish when it is directly compared to the importance of learning French and German (Statement G).

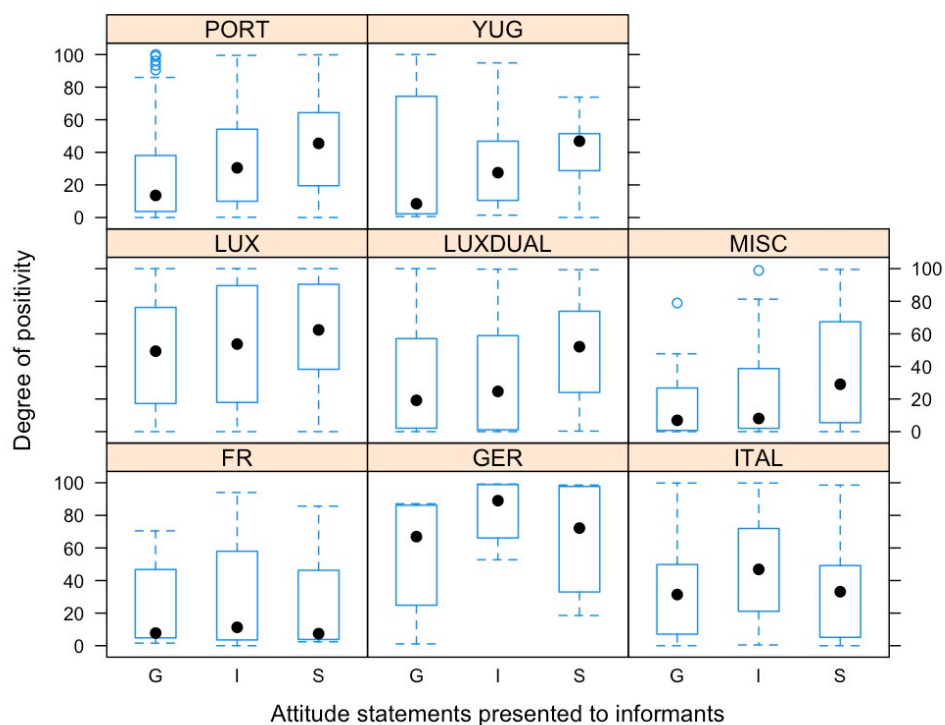


Figure 4.12: Attitudes towards the importance of learning Luxembourgish among students from different ethnic backgrounds. Likelihood-ratio chi-squared test reveals a significant difference between the various ethnic groups ($p < 0.001$). PORT = Portuguese, YUG = from Ex-Yugoslavia, LUX = Luxembourgish, LUXDUAL = Luxembourgish dual nationality, FR = French-speaking, GER = German, ITAL = Italian, MISC = miscellaneous.

The most positive attitudes towards the importance of learning Luxembourgish were found among students who opted for a Luxembourgish questionnaire (Figure 4.13). All students, regardless of their choice of questionnaire language, express the least positive attitudes towards learning Luxembourgish when it is juxtaposed with the importance of learning French and German (Statement G). The attitudes of the students who chose a French or a German questionnaire are extremely similar. Students who opted for a German questionnaire show a higher degree of positivity towards the idea that everyone should be able to write Luxembourgish (Statement S) than their peers who chose a French questionnaire.

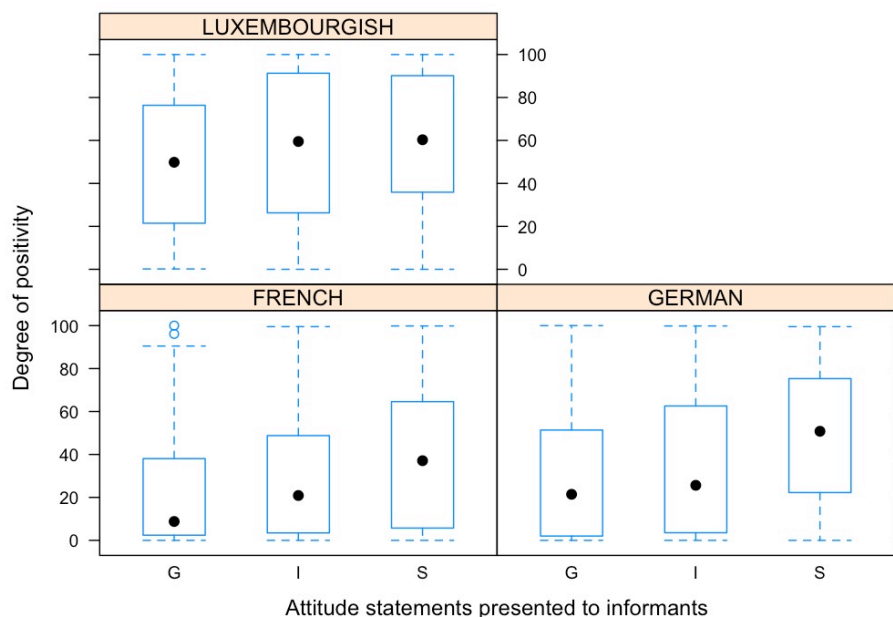


Figure 4.13: Attitudes towards the importance of learning Luxembourgish among students who chose different questionnaire languages. Likelihood-ratio chi-squared test reveals a significant difference between the different groups ($p < 0.0001$).

4.3.5 Instrumental attitudes towards Luxembourgish

The assessment of affective attitudes towards Luxembourgish (4.3.3) was complemented by an investigation of students' attitudes towards the usefulness of Luxembourgish. The following two statements were grouped for the investigation of instrumental attitudes towards Luxembourgish.

J: Speaking Luxembourgish is not enough to get by in Luxembourg.

O: People can easily get by in Luxembourg without knowing any Luxembourgish.

These statements were grouped to allow us to investigate attitudes towards the instrumental nature of Luxembourgish from different perspectives. While statement J focuses on the usefulness of Luxembourgish on its own, statement O

portrays the usefulness of Luxembourgish possibly in combination with other languages.

Hypothesis testing with mixed-effects models revealed only one significant model parameter, namely the students' choice of questionnaire language. A mixed-effects model which included the choice of questionnaire language as a fixed effect yielded a significant p-value when compared with a null model (likelihood-ratio chi-square test, $p < 0.0001$). No significant difference was found between the responses of the various ethnic groups. Students enrolled in both classical and technical schools also reported similar attitudes towards the usefulness of Luxembourgish and no significant difference was found in responses from students enrolled in schools located in different parts of Luxembourg.

Agreement with both statements J and O indicates a negative instrumental attitude towards Luxembourgish. The responses to the magnitude continuum were reverse-scored so that a high agreement score symbolises a positive instrumental attitude towards Luxembourgish and vice versa. Students' attitudes towards the usefulness of Luxembourgish are relatively negative in comparison with their affective attitudes towards Luxembourgish (4.3.3). Informants from most ethnic backgrounds expressed a higher degree of positivity in relation to statement O than to statement J (Figure 4.14). A high reversed score on statement O represents a belief that it is necessary to know some Luxembourgish in order to get by in Luxembourg. This statement, therefore, focuses on the usefulness of Luxembourgish, possibly in combination with other languages. Statement J, on the other hand, elicits attitudes towards the usefulness of Luxembourgish on its own. The same response pattern is found among all students except for Italians who express a higher degree of positivity towards the usefulness of Luxembourgish on its own (Statement J). Students from Ex-Yugoslavia, on the other hand, express the most positive attitudes towards Luxembourgish in combination with other languages (Statement O).

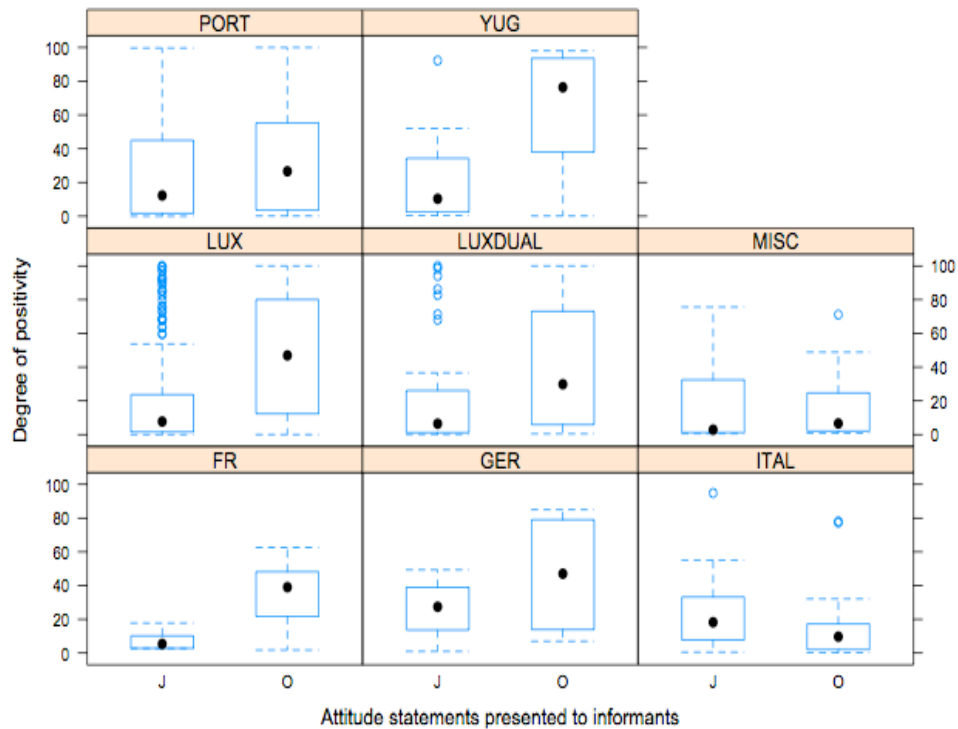


Figure 4.14: Attitudes towards the usefulness of Luxembourgish among students from different ethnic backgrounds. No significant difference between ethnic groups (Likelihood-ratio chi-square test). PORT = Portuguese, YUG = from Ex-Yugoslavia, LUX = Luxembourgish, LUXDUAL = Luxembourgish dual nationality, FR = French-speaking, GER = German, ITAL = Italian, MISC = miscellaneous.

Students who opted for a Luxembourgish questionnaire expressed the most positive instrumental attitudes towards Luxembourgish (Figure 4.15). The highest degree of positivity was found in relation to statement O, particularly among students who chose a Luxembourgish questionnaire. Consequently, attitudes are less positive towards the usefulness of Luxembourgish on its own (Statement J) than towards the usefulness of Luxembourgish in combination with other languages (Statement O).

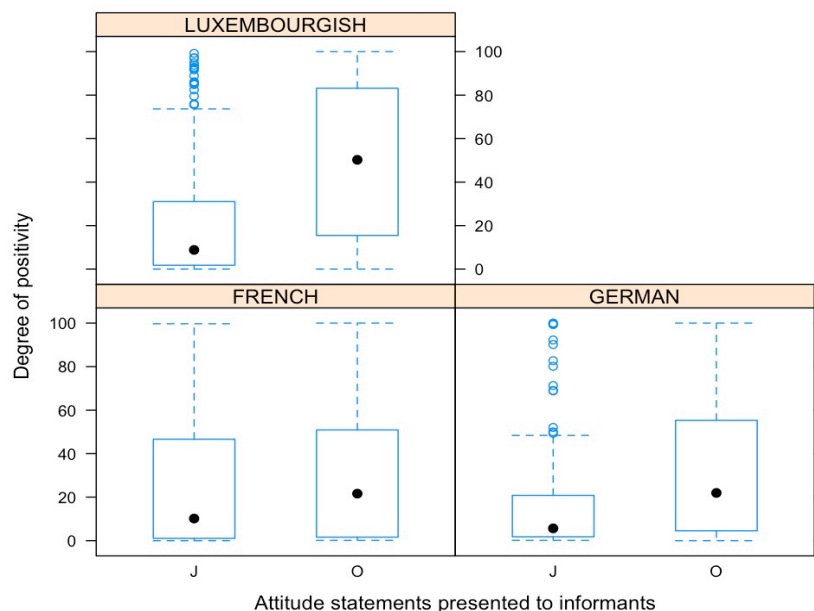


Figure 4.15: Attitudes towards the usefulness of Luxembourgish among students who chose different questionnaire languages. Likelihood-ratio chi-squared test reveals a significant difference between the different groups ($p < 0.0001$).

4.3.6 Attitudes towards Luxembourgish as a language of integration

The discrepancy between affective and instrumental attitudes towards Luxembourgish draws attention to the complex nature of the sociolinguistic situation in Luxembourg. Due to Luxembourg's high immigration rate (1.2.2), attitudes towards Luxembourgish as a language of integration were also investigated. The following three statements were grouped in order to assess integrative attitudes towards Luxembourgish.

L: 'Immigrants can integrate better if they can speak Luxembourgish'

T: 'More efforts need to be made by the government to make immigrants learn Luxembourgish so that they can integrate better'

U: 'Immigrants need to make more efforts to learn Luxembourgish so that they can integrate better'

These statements were grouped due to their shared focus on the role of Luxembourgish in the successful integration of immigrants. As with previous groupings, the chosen statements approach the issue under investigation from slightly different perspectives.

Students' ethnic background, the type of school in which they are enrolled and their choice of questionnaire language all emerged as significant model parameters when compared with a null model. Further models were compared in order to address issues of collinearity between independent variables. Type of school did not remain a significant model parameter when the effects of ethnicity were removed in further hypothesis testing. The differences in students' responses, therefore, cannot be attributed to the type of school they are enrolled in. Both ethnicity and choice of questionnaire language remained significant model parameters when further models were compared. Hypothesis testing with a model of ethnicity in which the effects of choice were removed yielded a significant p-value (likelihood-ratio chi-square test, $p < 0.0001$). When undertaking the same test with a model of language choice in which the effects of ethnicity were removed, a significant p-value was also found (likelihood-ratio chi-square test, $p < 0.05$). However, the model of ethnicity yielded a much lower p-value than the model of language choice. Consequently, the students' ethnic background has a stronger effect on their attitudes towards Luxembourgish as a language of integration than their choice of questionnaire language.

The majority of students report positive attitudes towards Luxembourgish as a language of integration. The most positive integrative attitudes towards Luxembourgish were found among students who chose a Luxembourgish questionnaire (Figure 4.16). Response patterns are almost identical for students who preferred German and French questionnaires. Among students who chose a Luxembourgish questionnaire, the idea that immigrants themselves need to make a greater effort to learn Luxembourgish (Statement U) receives the highest degree of agreement. This pattern is not as clear-cut among students who chose French

and German questionnaires. Students within these groups show very similar responses to statements T and U which indicates a belief that both immigrants themselves and the government need to make greater efforts to make immigrants learn Luxembourgish (Figure 4.16). Students who chose a Luxembourgish questionnaire, on the other hand, attribute a greater degree of the responsibility for learning Luxembourgish to the immigrants themselves as opposed to the government.

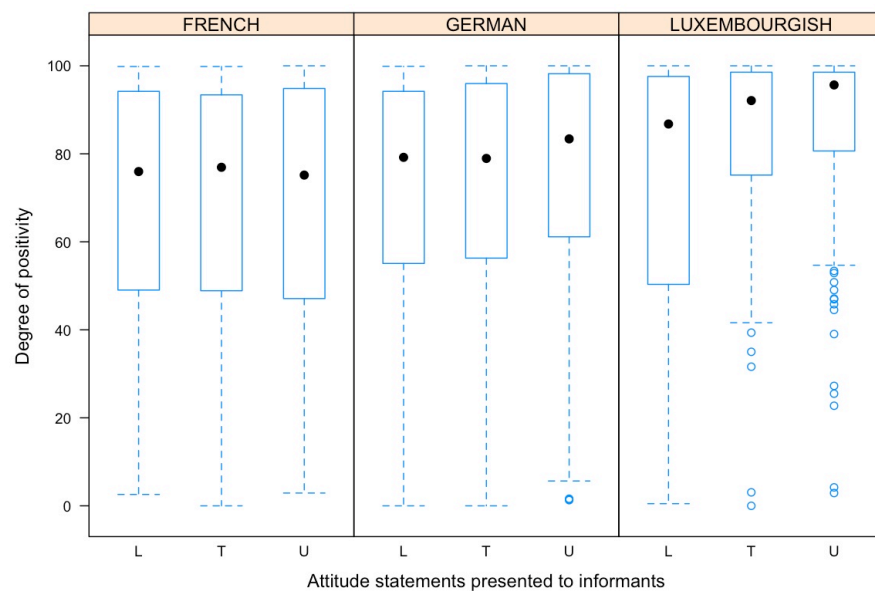


Figure 4.16: Attitudes towards Luxembourgish as a language of integration among students who chose different questionnaire languages. Likelihood-ratio chi-squared test reveals a significant difference between the different groups ($p < 0.05$).

Students from Luxembourgish, Luxembourgish dual and German ethnic backgrounds report the most positive attitudes towards Luxembourgish as a language of integration (Figure 4.17). Portuguese, French and Italian students, on the other hand, show the least positive integrative attitudes towards Luxembourgish. The response pattern in relation to statement U for students who chose a Luxembourgish language questionnaire (described above) re-occurred among students from a Luxembourgish ethnic background. Overall, integrative

attitudes towards Luxembourgish are more positive than instrumental attitudes towards Luxembourgish (4.3.6).

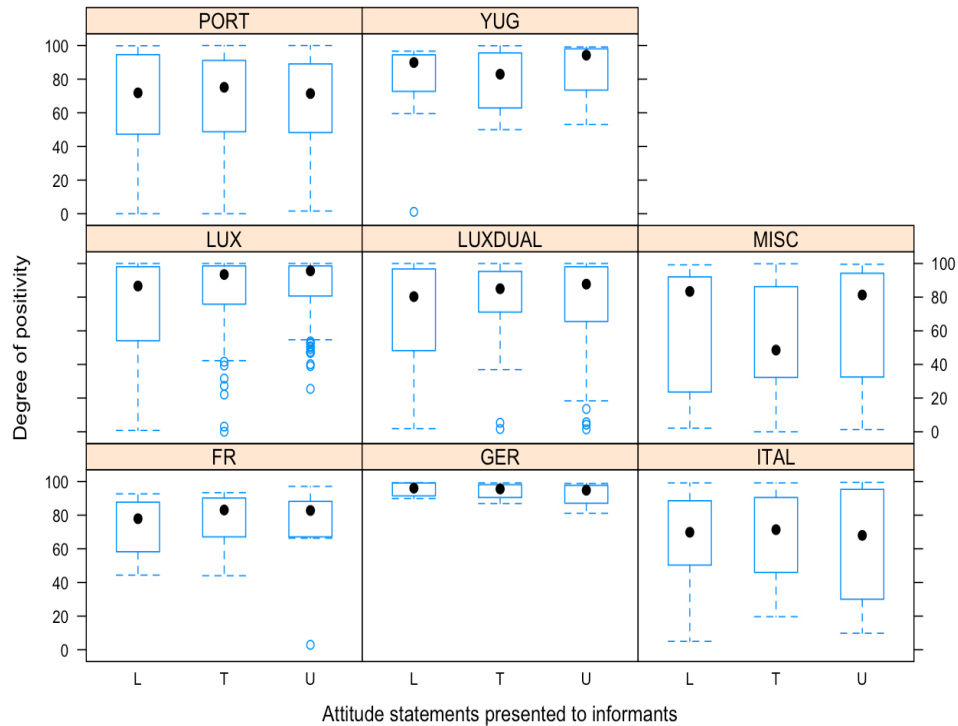


Figure 4.17: Attitudes towards Luxembourgish as a language of integration among students from different ethnic backgrounds. Likelihood-ratio chi-squared test reveals a significant difference between the different groups ($p < 0.0001$). PORT = Portuguese, YUG = from Ex-Yugoslavia, LUX = Luxembourgish, LUXDUAL = Luxembourgish dual nationality, FR = French-speaking, GER = German, ITAL = Italian, MISC = miscellaneous.

4.3.7 Attitudes towards the usefulness of French

The largely negative attitudes towards the usefulness of Luxembourgish (4.3.6) indicate that informants have a different language at their disposal which fulfils a more utilitarian function than Luxembourgish. Responses to the following three attitude statements were grouped and analysed in order to reveal attitudes towards the usefulness of French.

K: ‘In Luxembourg you must speak at least French’

M: ‘French is an important language in Luxembourg because it builds a bridge between Luxembourgish people and immigrants’

Q: ‘It is easier to find a job if you speak French rather than any other language’

These statements collectively focus on the role of French in Luxembourg. While statement K approaches the issue from a general perspective, statements M and Q portray specific examples of how French can fulfil a utilitarian function in Luxembourg.

The statistical analysis revealed no significant differences between any of the independent variables. Students from all ethnic backgrounds, classical and technical schools located throughout the country reported similar attitudes towards the usefulness of French. Similarly, students’ attitudes towards French were not influenced by their choice of questionnaire language. Instrumental attitudes towards French are very positive among the vast majority of the students sampled for this study (Figure 4.18). Responses to individual statements are very similar. Statement K receives the highest degree of agreement from all ethnic groups except Germans.

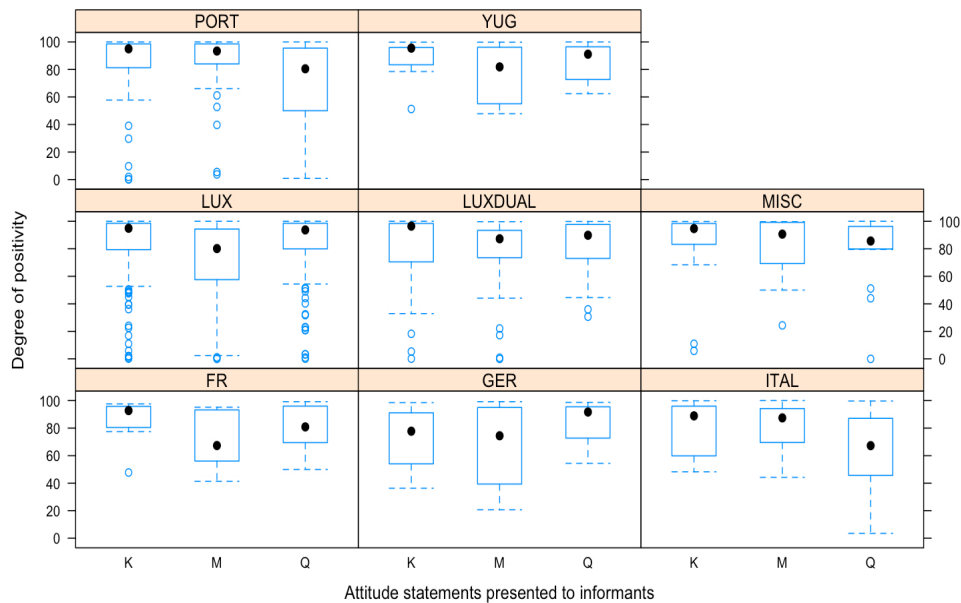


Figure 4.18: Attitudes towards the usefulness of French among students from different ethnic backgrounds. Likelihood-ratio chi-squared test revealed no significant difference between the different groups ($p < 0.05$). PORT = Portuguese, YUG = from Ex-Yugoslavia, LUX = Luxembourgish, LUXDUAL = Luxembourgish dual nationality, FR = French-speaking, GER = German, ITAL = Italian, MISC = miscellaneous.

4.3.8 Attitudes towards the use of foreign languages in education

Students' attitudes towards the use of foreign languages at school were also assessed. Responses to three attitude statements were analysed in order to reveal attitudes towards both foreign language teaching and the use of foreign languages as media of instruction. As previously outlined (4.3.4), informants' magnitude continuum scores were measured in such a way that a high score represents a positive attitude towards the use of foreign languages in education. Informants were presented with the following three statements:

A: 'Teaching subjects through foreign languages helps learning foreign languages'

B: 'Too much time is dedicated to foreign language teaching'

H: ‘School subjects such as biology, history, geography are made too difficult by the use of a foreign language of instruction’

These statements were grouped as they allow us to gain a more holistic view of students’ attitudes towards the role of foreign languages in Luxembourg’s schools. While statements A and H focus on the use of foreign media of instruction, statement B addresses the issue of language teaching.

Students enrolled in different types of schools showed significantly different attitudes towards the use of foreign languages in education. Hypothesis testing with a mixed-effects model of school yielded a significant p-value ($p < 0.05$). As explained in section 4.3.1, in cases where the p-value resulting from a likelihood ratio chi-squared test is higher than 0.01, the Markov Chain Monte Carlo method (MCMC) was also undertaken in order to ensure that the p-value is not anti-conservative. The MCMC for the mixed-effects model of school yielded a very similar p-value ($p < 0.05$). The ethnic background of the students also had a significant effect on their attitudes towards the use of foreign languages in education (likelihood ratio chi-squared test, $p < 0.05$; MCMC, $p < 0.01$).

The majority of students report moderately positive attitudes towards the use of foreign languages in education. Students enrolled in technical schools show slightly less positive attitudes than their peers from classical schools. The difference is most noticeable in responses to attitude statement B drawing attention to the fact that students from technical schools express a stronger desire to reduce the number of hours dedicated to language teaching than students enrolled in classical schools (Figure 4.19).

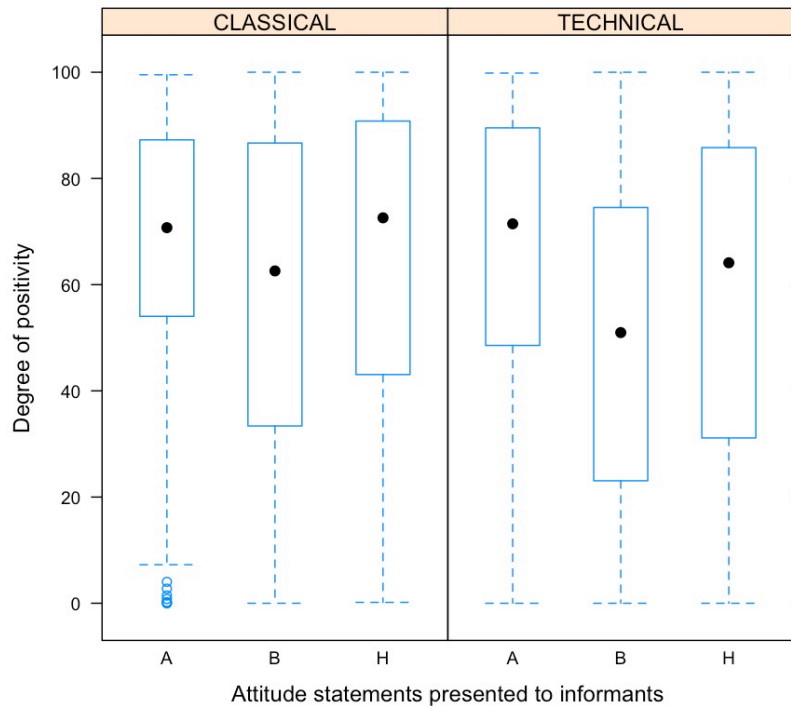


Figure 4.19: Attitudes towards the use of foreign languages in education according to students enrolled in different types of schools. Likelihood-ratio chi-squared test revealed a significant difference between students enrolled in different types of schools ($p < 0.05$).

The majority of students from all ethnic backgrounds report positive attitudes towards the use of foreign languages in education (Figure 4.20). The idea that the use of foreign languages of instruction helps students to learn these particular languages (Statement A) receives the most positive attention from students originating from almost all ethnic backgrounds. Only German students and those from miscellaneous linguistic backgrounds do not support this pattern. Students from all ethnic backgrounds except Germans and students from Ex-Yugoslavia express the least positive attitudes towards the high number of hours dedicated to language teaching in Luxembourg's education system (Statement B). The high degree of positivity towards statement H by all ethnic groups except students from Ex-Yugoslavia indicates that students do not find school subjects such as biology, history and geography too difficult when taught through a foreign language.

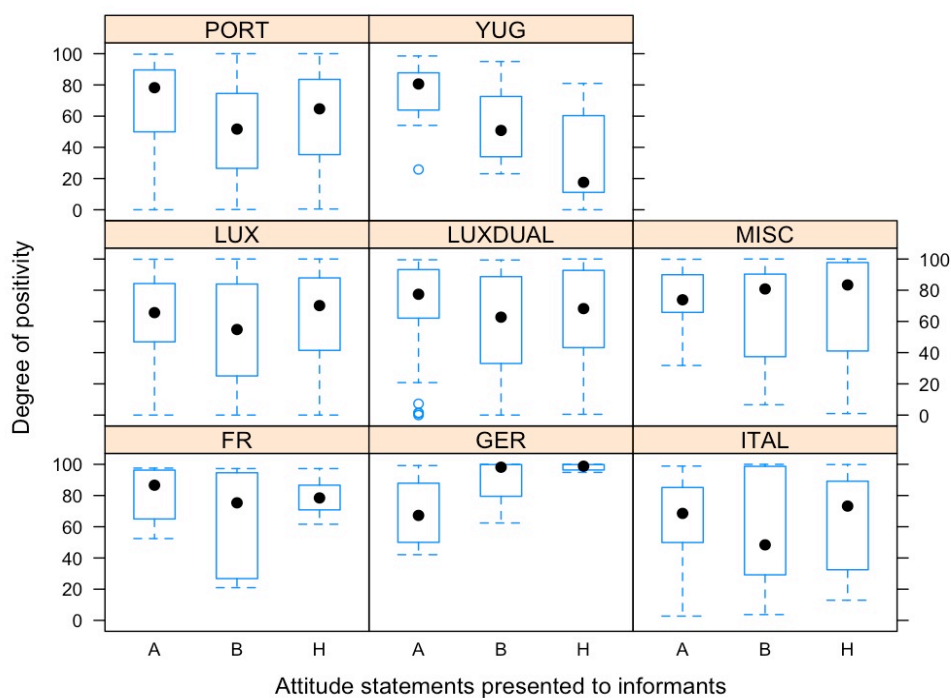


Figure 4.20: Attitudes towards the use of foreign languages in education according to students from different ethnic backgrounds. Likelihood-ratio chi-squared test revealed no significant difference between the different groups ($p < 0.05$). PORT = Portuguese, YUG = from Ex-Yugoslavia, LUX = Luxembourgish, LUXDUAL = Luxembourgish dual nationality, FR = French-speaking, GER = German, ITAL = Italian, MISC = miscellaneous.

4.3.9 Attitudes towards concurrent multilingual teaching

Students' attitudes towards concurrent multilingual teaching were investigated because of the discrepancies found between the official language in education policies and the reality of the classroom (i.e. high amount of Luxembourgish used in classroom interactions, Figure 4.6). Officially, one language of instruction is prescribed for each school subject; however, students and teachers frequently switch between various languages in the same classroom. Responses to the following three statements were analysed in order to gain insights into students' attitudes towards the use of multiple languages in the same classroom.

D: ‘Teachers should allow students to speak different languages during the same lesson’

E: ‘One language of instruction must be prescribed for every subject’

F: ‘Teaching and learning materials in more than one language help students with different language abilities’

While statement E elicits attitudes towards official language of instruction policies, statement D pays attention to the ways in which teachers should deal with multilingual classroom situations. Statement F focuses on the concurrent use of languages in classroom materials such as textbooks and worksheets. This group of statements, therefore, approaches the issue of concurrent multilingual teaching from multiple perspectives.

Significantly different attitudes were found among students enrolled in classical and technical schools ($p < 0.001$). Students from technical schools display more positive attitudes towards concurrent multilingual teaching practices (Figure 4.21). They express a stronger desire to be allowed to speak more than one language during the same lesson (Statement D). They also see more benefits in teaching and learning materials written in multiple languages (Statement F) than their peers from classical schools. Classical secondary school students show the least positive attitudes towards Statement D which focuses on the possibility of speaking more than one language during the same lesson.

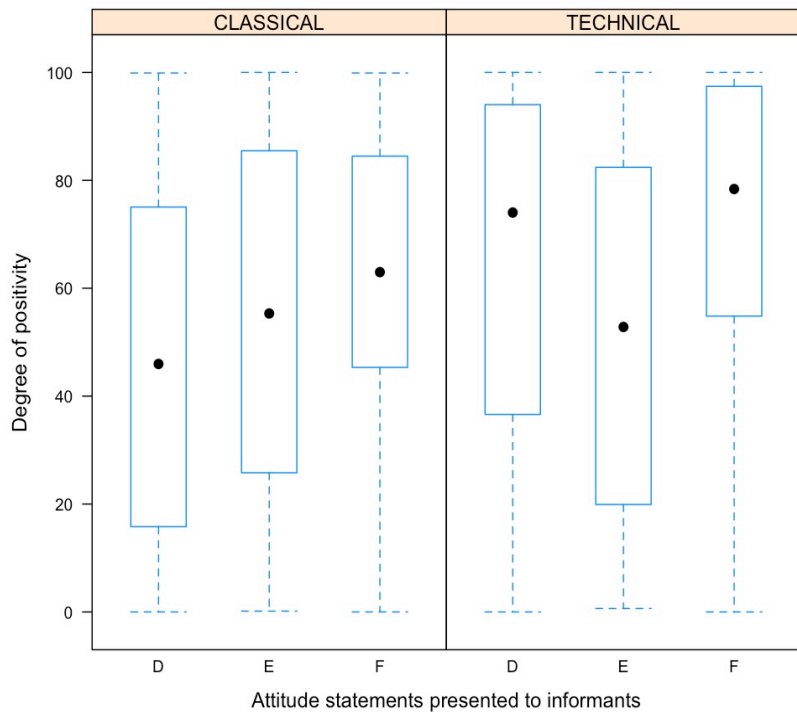


Figure 4.21: Attitudes towards concurrent multilingual teaching according to students enrolled in different types of schools. Likelihood-ratio chi-squared test revealed a significant difference between students enrolled in different types of schools ($p < 0.001$).

4.3.10 Summary and discussion

The statistical analysis of students' responses to the various attitude statements included in the questionnaire draws attention to the complex and highly varied language attitudes prevalent in Luxembourg. By including the students' choice of language for the completion of the questionnaire as an independent variable in the statistical analysis of the attitudinal data it was possible to establish a link between language behaviour and language attitudes. In fact, students who opted to fill in a Luxembourgish questionnaire largely display more positive affective (4.3.3), instrumental (4.3.5) and integrative (4.3.6) attitudes towards Luxembourgish and also attribute greater importance to learning Luxembourgish in an educational context (4.3.9) than their peers who chose to complete the

questionnaire in either French or German. Students originating from different ethnic backgrounds also largely hold different language attitudes. On average students from Romance language backgrounds (i.e. French, Italian, Portuguese) display less positive affective (4.3.3), instrumental (4.3.5) and integrative (4.3.6) attitudes towards Luxembourgish than ethnically Luxembourgish, Luxembourgish dual nationality and German students. Similarly, students from Romance language backgrounds also express the least positive attitudes towards the importance of learning Luxembourgish (4.3.4).

While Luxembourgish largely emerges as a language of identity (4.3.3) and integration (4.3.6) in Luxembourg, attitudinal patterns suggest that it fails to fulfil an instrumental function (4.3.5). French, on the other hand, undoubtedly emerges as a highly utilitarian language in Luxembourg as students on average display very positive instrumental attitudes towards French (4.3.7). Further insights into the instrumental/affective dichotomy between attitudes towards French and Luxembourgish can be gained by focusing on the close analysis of students' attitudes towards the importance of learning Luxembourgish (4.3.4) and the use of foreign languages in education (4.3.8). On average, students display fairly positive attitudes towards the acquisition of written Luxembourgish and towards the recognition of Luxembourgish as a school subject (4.3.8, responses to statements I and S). However, attitudes towards learning Luxembourgish become less positive when Luxembourgish is directly juxtaposed with French or German (4.3.8, responses to statement G). This pattern must be viewed in connection with students' attitudes towards the use of foreign languages in education as on average we can observe a high level of agreement with the idea that using foreign languages such as German or French as media of instruction helps students to acquire these languages. Students' highly positive instrumental attitudes towards French draw attention to a strong belief among students that French language skills constitute a crucial asset in Luxembourg. Therefore, they clearly consider the acquisition of French and/or German as more important than the inclusion of Luxembourgish in the curriculum. These findings draw attention to the fact that

German and French, in particular, continue to benefit from a prestigious and utilitarian position in Luxembourg's society. However, the highly positive affective attitudes towards Luxembourgish viewed in connection with the high demand for the use of Luxembourgish as a language of instruction (Figure 4.5) suggest that Luxembourgish may slowly be adopting a more instrumental role. Instrumental attitudes towards Luxembourgish were found to be most positive among students who opted to fill in a Luxembourgish questionnaire. Interestingly, the majority of students sampled for this study chose Luxembourgish for the completion of the questionnaire despite the presence of various factors (e.g. formality of setting, difficulties with the acquisition of Luxembourgish orthography) discouraging the choice of Luxembourgish (Figure 4.7).

4.4 Implicit language attitudes: findings from the experimental Implicit Association Test

The large-scale attitudinal study revealed that students commonly express positive affective and integrative attitudes towards Luxembourgish and positive instrumental attitudes towards French. In order to gain further insights into the complex nature of students' language attitudes towards Luxembourgish and French an experimental Implicit Association Test (IAT) (Greenwald *et al.*, 1998) was devised and carried out with a small sample of students. Through a series of categorisation tasks, this method measures informants' automatic associations between different categories (e.g. different languages) and positive or negative attributes (3.4.3). In the IAT, the direct investigation of students' explicit language attitudes in the large-scale questionnaire study was complemented by indirectly accessing a small sample of students' attitudes towards Luxembourgish and French. Explicit attitudes, commonly accessed through questionnaires or interviews, can be biased towards socially desirable attitudes and therefore may not reflect a speaker's real language attitudes (Garrett, 2007: 117). By avoiding the requirement that informants report their attitudes in a direct manner, the IAT is able to reveal whether informants associate certain target objects, such as

languages, with positive or negative attributes and may therefore reveal attitudes that informants are not willing to express directly in questionnaires (Greenwald *et al.*, 1998: 1465). Further details regarding the design of the IAT can be found in section 3.4.3.

As previously outlined (3.4.3), the IAT is composed of a sequence of seven categorisation tasks (i.e. blocks) to be completed by the informant on a computer. Various practice blocks are included in the experiment in order to allow informants to familiarise themselves with the task at hand. The IAT scores which provide insights into implicit attitudes emerge from the two combined categorisation tasks performed in blocks 4 and 7. In block 4, informants are required to categorise as fast as possible ‘Luxembourgish’ with ‘positive’ attributes and ‘French’ with ‘negative’ attributes. In block 7, the task is reversed and informants are required to categorise ‘Luxembourgish’ with ‘negative’ attributes and ‘French’ with ‘positive’ attributes. By calculating the difference of the informants’ mean reaction times to the two test blocks (4 and 7) implicit attitudinal differences can be revealed (Borton *et al.*, 2007: 789). Greenwald *et al.* (1998: 1466) argue that ‘if the target categories are differentially associated with the attribute dimension, the subject should find one of the combined tasks [...] to be considerably easier than the other’. The difference in ease or difficulty results in different reaction times and reveals an implicit attitudinal difference between target categories. In other words, if an informant reacts faster when having to press one key for ‘Luxembourgish’ and ‘positive’ (Block 4) than for ‘French’ and ‘positive’ (Block 7), the researcher can assume that the informant holds a more positive implicit attitude towards Luxembourgish than towards French.

For the purposes of this study, five students completed an IAT which required them to associate two languages, Luxembourgish and French, with positive and negative attributes. Mean reaction times to the two test blocks (blocks 4 and 7) showed that participants held more positive implicit attitudes towards Luxembourgish than towards French; that is, they reacted faster when required to

press one key for 'Luxembourgish' and 'positive' (mean reaction time = 679 msec) than for 'French' and 'positive' (mean reaction time = 819 msec). The mean difference between the Luxembourgish–positive and French–positive trials amounts to 140 msec. This difference in reaction times is consistent with Borton *et al.*'s (2007: 795) IAT study of self-esteem which found that participants held more positive implicit attitudes towards themselves than towards others. In this case the attitudinal difference was revealed by a mean reaction time difference of 154 msec between the self-positive and other-positive trials. The mean difference was statistically significant from zero by a one-sample t test [$t(77) = 8.16$, $p < .001$]. Due to the small sample size of the small-scale language attitude IAT reported above, tests for statistical significance could not be undertaken but would be appropriate with a larger sample size.

Despite the enormous interest the IAT has received from both the scientific community and the general public (Karpinski & Hilton, 2001: 774), the exact meaning of IAT results remains open for discussion among social psychologists. Karpinski and Hilton (2001) draw attention to the often low or non-existent correlations between IAT findings and explicit measurements of attitudes. They demonstrate this lack of strong correlations in a series of experiments and support an 'environmental association interpretation' of the IAT. According to the environmental association model, the IAT gains insights into the associations a person has experienced in their environment without being able to throw light onto an individual's level of endorsement towards a given attitude object (Karpinski & Hilton, 2001: 775). When following this line of thought, the findings from the language attitude IAT reported above do not necessarily reflect the informants' positive implicit attitudes towards Luxembourgish but reveal that the informants have more often experienced Luxembourgish in association with positive attributes and French in association with negative attributes than vice versa. Karpinski and Hilton (2001: 787) conclude that the IAT does not necessarily measure attitudes on a different level but can successfully reveal the associations people have been exposed to in their environment. The

disagreements concerning the exact meaning of IAT findings highlight that explicit measurement of language attitudes cannot simply be replaced by psychological experiments such as the IAT. However, the IAT generates invaluable information concerning the positive and negative associations people have experienced in relation to different languages and, therefore, contributes to a more holistic understanding of the role of socio-psychological factors in the production and perception of language when used in combination with explicit measurements of attitudes.

The findings from the language attitude IAT carried out for the purposes of this study indicate that students associate Luxembourgish with more positive attributes than French. Due to the small sample size no correlation tests with their explicit language attitudes (i.e. questionnaire responses) were carried out. However, their positive implicit attitudes towards Luxembourgish are in line with the widely reported positive affective and integrative attitudes towards Luxembourgish in the questionnaire study. Moreover, the high demand for the use of Luxembourgish as a medium of instruction as well as the frequent choice of Luxembourgish for the completion of the questionnaire are also reflected in the findings from the IAT.

4.5 Conclusion

The various analyses presented in this chapter draw attention to the complex nature of language attitudes prevalent in Luxembourg. While students largely express positive affective and integrative attitudes towards Luxembourgish, they establish French as the most useful language in Luxembourg. In addition, largely mixed attitudes towards the importance of learning Luxembourgish and the use of foreign languages in education contrast with a widespread desire for the official recognition of Luxembourgish as a medium of instruction. These findings must be viewed in connection with the results emerging from the IAT which indicate that Luxembourgish is implicitly associated with more positive attributes than French.

The highly varied results of the attitudinal study presented in this chapter may therefore suggest that while students currently may not regard Luxembourgish as a useful language in Luxembourg, they show a desire for Luxembourgish to fulfil a more instrumental function in the future. This interpretation of the data does not solely rest on students' language of instruction preferences and on their frequent choice of Luxembourgish for the completion of the questionnaire but also on their extensive self-reported use of Luxembourgish in classroom activities. Further insights into the ways in which students' language attitudes are manifested in daily classroom interactions require an investigation of language use in context and will constitute the focus of chapters 5 and 6.

5 Multilingual language behaviour among teachers

5.1 Introduction

The findings presented in this chapter originate from a longitudinal ethnographic study of language behaviour in secondary school classrooms in Luxembourg. The fieldwork was carried out over three separate four-week periods covering the exact period in time when the language of instruction changes from German to French in the majority of school subjects. A group of students and teachers were first observed in May 2008 (Phase A) during the last term of German-medium education. The fieldworker revisited the same students in October 2008 (Phase B) during the initial weeks of French-medium education. The data collection was completed in May/June 2009, ten months after the language of instruction was officially changed from German to French (Phase C). 32 school lessons from non-language subjects were selected for analysis. Further details regarding data collection and data analysis methods can be found in Chapter 3 (3.6)

The analyses focus on the ways in which differing language attitudes and language preferences are negotiated in a multilingual teaching and learning environment. A thorough understanding of the various factors constraining students and teachers' language choice is a prerequisite for the development of successful and efficient language in education policies. This chapter concentrates on the multilingual strategies employed by teachers. In an attempt to gain new insights into the workings of multilingual classroom practices in Luxembourg, the analyses presented centre around the following research questions:

- Do all teachers adhere to the official medium of instruction policies?
- Which languages are used alongside the official media of instruction in the classroom?
- What functions are fulfilled by teacher-initiated code-switching?

- Does teachers' code-switching into Luxembourgish help to convey curriculum content?
- What is the role of German after the official switch of the language of instruction to French?

Teachers' multilingual language behaviour is approached from both a qualitative and quantitative perspective. First of all, differing levels of tolerance towards classroom code-switching are analysed and employed as classification criteria to establish different types of teachers to be included as external variables in the remainder of the analysis. Code-switching and transfer are defined and exemplified as separate types of language alternation phenomena before various functions of classroom code-switching and transfer are qualitatively analysed. Once several functions have been exemplified through the inclusion of extensive data extracts, this chapter will quantitatively illustrate some potential reasons why teachers alternate between Luxembourgish, French and German in the same classroom. Throughout the quantitative analysis, particular attention will be paid to the influence of the teachers' differing levels of tolerance towards classroom code-switching on their language behaviour as well any longitudinal changes in language use throughout the official switch of the language of instruction from German to French.

5.2 Teachers' tolerance towards classroom code-switching

5.2.1 Establishing different types of teachers

The ethnographic nature of the data collection enabled the author to fully immerse himself into the daily routines of the classroom and to gain initial impressions of the various factors influencing multilingual language practices among the chosen group of students and teachers. The classroom situation offers the researcher extensive control over a number of external variables constraining language production such as subject matter, topic and the number of speakers involved.

Moreover, the stringent official language in education policies prescribing the use of a single medium of instruction (either German or French) provide the analyst with a benchmark against which teachers' actual language behaviour can be analysed and interpreted. Most importantly, the power relations between students and teachers are pre-determined as teachers hold extensive authority and control over classroom activities. This power imbalance constrains the variation that can occur in students' code choice and therefore needs to be addressed before students' language behaviour can be analysed in chapter 6.

Extensive participant observation as well as an initial examination of the audio-recordings confirmed the existence of substantial variability in the language behaviour of individual teachers and revealed that each teacher's language production and their level of tolerance towards classroom code-switching seemed to influence students in their choice of language as well as their degree of participation in classroom activities. As the three data collection phases span more than one academic year, some new teachers were assigned to the chosen group of students at the beginning of phase B which coincided with the start of a new academic year. The ensuing impossibility of longitudinally analysing the behaviour of individual teachers was overcome by introducing 'types' of teachers into the analysis.

Three separate criteria were identified for the categorisation of teachers into three different types, labelled 'high', 'middle' and 'low' tolerance towards classroom code-switching. Qualitative and quantitative factors are taken into consideration during the classification of teachers. First of all, teachers' positive or negative reactions towards student-initiated code-switching into Luxembourgish are qualitatively assessed (Criterion 1). While some teachers allow students to code-switch extensively into Luxembourgish during classroom interactions, others resort to various disciplinary actions such as reprimanding students for speaking Luxembourgish, making them repeat the same utterance in the official medium of instruction (French or German depending on fieldwork phase) and/or ignoring

their question or contribution. In addition to this qualitative measurement of tolerance, the teachers' own code choice and patterns of code-switching are assessed. Firstly, the amount of speech uttered in each language is measured by carrying out frequency counts of the number of words spoken by teachers in German and Luxembourgish in Phase A and the number of words spoken in French, Luxembourgish and German in phases B and C (Criterion 2). All words in the transcripts of 32 school lessons were assigned a language tag in accordance with the LIDES Coding Manual. Further details regarding language tagging can be found in section 3.6.4. Automated frequency counts were carried out and speaker profiles for individual teachers were established. This quantification of language choice discloses the high degree of variability in code choice among individual teachers. The number of teacher-initiated code-switches into Luxembourgish in phase A and Luxembourgish and/or German in phases B and C is employed as a further measure of high, middle and low tolerance teacher types (Criterion 3). The number of teachers assigned to the different code-switching tolerance types can be found in Table 5.1.

	High	Middle	Low
Phase A	0	1	2
Phase B	1	2	1
Phase C	1	1	1

Table 5.1: Number of teachers in high, middle and low tolerance towards classroom code-switching categories.

In phase A no high tolerance teachers were identified and the uneven number of teachers in each phase and type is due to decisions taken by the school administration that could not be accounted for during the design of the study. All language teachers were excluded from the sample. This decision was based on an attempt to analyse the impact of language of instruction policies in classrooms where languages do not constitute the focus of the lesson. Teachers included in the sample specialise in a variety of subjects such as History, Geography, Mathematics, Physics and Biology. In the following section (5.2.2), the three

categorisation criteria will be validated and exemplified in order to illustrate the high degree of variability in teachers' language behaviour and the resulting high, middle and low tolerance types to be used for the remainder of the analysis.

5.2.2 Validation and exemplification of the categorisation criteria

Extensive participant observation enabled the fieldworker to gain insights into the highly variable attitudes towards student-initiated classroom code-switching held by different teachers (Criterion 1). In extract 5.1, Marc initiates a code-switch into Luxembourgish when answering the teacher's question posed in French. The teacher expresses her disagreement with the student's code-switch in her following turn clearly marking her low level of tolerance towards code-switching into Luxembourgish (line 4). Marc acknowledges the teacher's disapproval of his code choice and repeats his utterance in French (line 5).

- | | | |
|---|----------|---|
| 1 | Teacher: | les soldats ne pouvaient pas être logés dans des casernes à |
| 2 | | votre avis où est-ce qu'on les logait? |
| 3 | Marc: | bei Leit doheem. |
| 4 | Teacher: | ah ça j'ai rien compris. |
| 5 | Marc: | chez les gens. |
| | | |
| 1 | Teacher: | the soldiers could not be lodged in army barracks in your |
| 2 | | opinion where do you think they stayed? |
| 3 | Marc: | at people's houses. |
| 4 | Teacher: | ah now I did not understand anything. |
| 5 | Marc | at people's houses. |

Extract 5.1: Conversation between student and low tolerance teacher in phase B. Regular font = French, bold font = Luxembourgish.

Extract 5.2 displays a further example of low tolerance towards student-initiated code-switches into Luxembourgish. The topic of this conversation taking place between three students and a low tolerance teacher focuses on the differing eating habits in various European countries. In line 3, Kevin initiates a code-switch into Luxembourgish when voicing his opinion on the discussion topic. The low tolerance teacher does not instantly show her disapproval of Kevin's code-switch into Luxembourgish and refrains from disciplining him in her subsequent turn (line 4). However, she reinstates her preferred language of communication by responding to Kevin's contribution in French. When Marc takes the floor in the following turn and attempts to express his point of view in Luxembourgish (line 5), the teacher interrupts him and claims that she is unable to understand him (line 6). In addition to repeating her claim that she is unable to understand Marc, the teacher raises her voice. Following the teacher's assertion of low tolerance towards code-switching into Luxembourgish, Marc abandons his attempt to contribute to the discussion and the floor is taken by a different student (line 7/8).

- 1 Teacher: oui mais écoutez en Espagne aujourd'hui les Espagnols
2 ont toujours l'habitude de manger très tard le soir.
- 3 Kevin: **um ellef Auer mëttes oder sou.**
- 4 Teacher: mais voilà.
- 5 Marc: **mee si iessen.**
- 6 Teacher: moi je comprends rien je comprends rien du tout.
- 7 Tom: une heure du soir c'est encore jour car ils dorment à
8 l'après-midi.
- 1 Teacher: yes but listen in Spain nowadays Spanish people still eat
2 very late at night.
- 3 Kevin: **lunch at eleven o'clock or something like that.**
- 4 Teacher: well exactly.
- 5 Marc: **but they eat.**
- 6 Teacher: I don't understand anything I don't understand anything

7 at all.
8 Tom: one o'clock in the evening is still day because they sleep
9 during the afternoon.

Extract 5.2: Conversation between three students and a low tolerance teacher in Phase C. Regular font = French, Bold font = Luxembourgish.

While some teachers show low levels of tolerance towards student-initiated code-switching, others do not resort to disciplinary actions when students employ Luxembourgish in classroom interactions. Higher levels of tolerance towards student-initiated code-switching lead to two possible scenarios. Firstly, a lack of disciplinary actions can result in extensive inter-speaker code-switching where the teachers' words are largely uttered in the official medium of instruction (French or German depending on fieldwork phase) and the students' words are uttered in Luxembourgish. Alternatively, higher levels of tolerance towards student-initiated code-switching into Luxembourgish can lead to an extended switch of the language of interaction from the official medium of instruction (French or German) into Luxembourgish. In this case, the teacher accepts the student's switch into Luxembourgish and consequently employs Luxembourgish in his or her following words. While high and low tolerance teachers can be distinguished easily through this qualitative assessment of the teachers' reactions towards student-initiated code-switching, middle tolerance teachers typically display a mixture of positive and negative reactions. The final categorisation of teachers is, therefore, based on two further criteria which are validated below.

First of all, the amount of speech uttered in French, German and Luxembourgish by high, middle and low tolerance teachers will be illustrated for all fieldwork phases (Criterion 2). Words transcribed from phase A lessons were tagged as either German (the official medium of instruction) or Luxembourgish. During German medium education (Phase A), teachers classified as high and middle tolerance do not considerably differ in terms of their code choice (Figure 5.1). Adherence to the official medium of instruction (German) is very common among

all teachers during this phase and this may be related to the students' high level of proficiency in German. While a clear difference in code choice cannot be revealed between middle and low tolerance teachers during phase A, the classification of teachers during German medium education remains valid due to the discrepancies identified in their attitudes towards student-initiated code-switching (Criterion 1). Unlike low tolerance teachers, middle tolerance teachers allow students to code-switch into Luxembourgish and the classroom discourse is characterised by extensive inter-speaker code-switching where the majority of the teachers' words are uttered in German and the majority of the students' words are uttered in Luxembourgish.

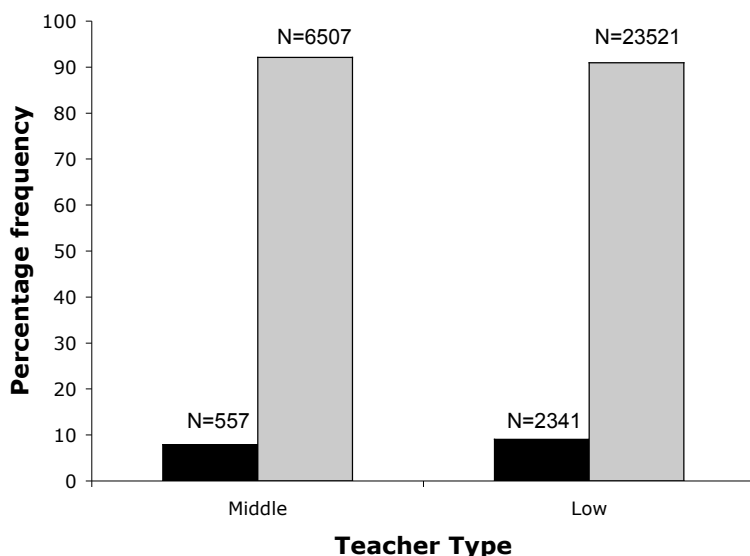


Figure 5.1: Distribution of the number of words uttered in Luxembourgish and German by middle and low tolerance teacher types in phase A. Black = Luxembourgish, grey = German. N=32926.

During phase B, high, middle and low tolerance teachers were identified and an illustration of their code choice based on frequency counts of all transcribed words shows a significant difference in terms of language behaviour (chi-square test, $p < 0.01$) (Figure 5.2). Both middle and low tolerance teachers employ French more widely than Luxembourgish in classroom interactions. However, a difference in their use of French still emerges as middle tolerance teachers choose

French for 75 percent of their utterances compared to 93 percent for the low tolerance teacher. German is spoken by middle and low tolerance teachers 0.25 and 0.14 percent of the time respectively and is not employed by the high tolerance teacher. Finally, the quantification of code choice during the initial weeks of French medium education (phase B) clearly demonstrates that high tolerance teachers extensively use Luxembourgish as a medium of instruction.

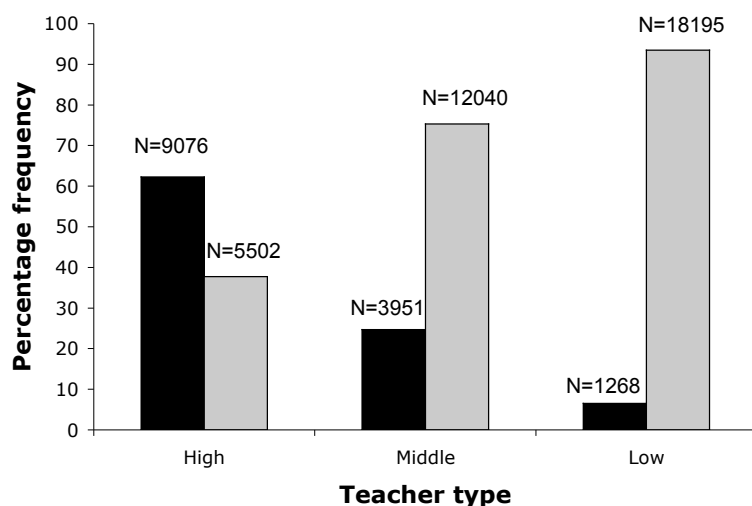


Figure 5.2: Distribution of the number of words uttered in French and Luxembourgish by low, middle and high tolerance teacher types in phase B. Black = Luxembourgish, grey = French. Chi-square test, $p < 0.01$. $N = 50032$.

Teachers' code choice in phase C is similar to their language behaviour in phase B. The high tolerance teacher's use of Luxembourgish decreases by 7 percent. Similarly, both middle and low tolerance teachers use Luxembourgish less frequently and the gap between these two types of teachers narrows in terms of code choice in phase C. During phase C, German is employed 0.26 and 0.04 percent of the time by Middle and Low tolerance teachers respectively.

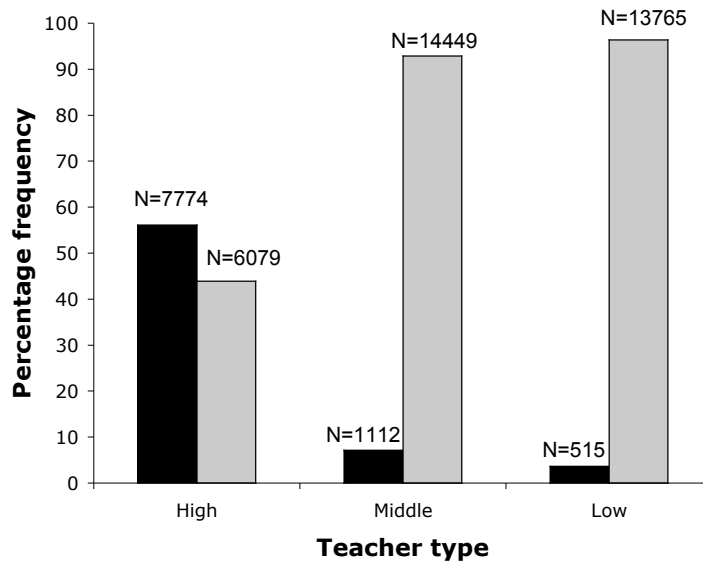


Figure 5.3: Distribution of the number of words uttered in French and Luxembourgish by low, middle and high tolerance teacher types in phase C. Black = Luxembourgish, grey = French. Chi-square test, $p < 0.01$. $N = 43694$.

The quantification of the number of words spoken in each language reveals a general decline in the amount of French spoken from high to middle to low tolerance teachers in phases B and C. The high tolerance teacher employs Luxembourgish more extensively than French, whereas both middle and low tolerance teachers adhere more closely to the official language of instruction policies by speaking largely French during classroom interactions. The variability between the different types of teachers is considerably higher in phases B and C than in phase A where patterns of code choice are remarkably similar between low and middle tolerance teachers.

The categorisation of teachers into high, middle and low tolerance types can also be illustrated through their differing patterns of code-switching behaviour (Criterion 3). Figure 5.4 displays the average number of code-switches into Luxembourgish initiated by low, middle and high tolerance teachers. As with patterns of code choice based on the number of words uttered in different languages (Criterion 2), low and middle tolerance teachers do not markedly differ

from each other in terms of their frequencies of Luxembourgish code-switching during German medium education. Due to students' high level of proficiency in German we can observe only minor differences between middle and low tolerance teachers for criteria 2 and 3. As students are fluent in the official medium of instruction, teachers are less often faced with a need to code-switch into Luxembourgish. During French medium education (phases B and C), on the other hand, we can observe an increase in the amount of Luxembourgish code-switching ranging from low, to middle to high tolerance teachers. The most prominent difference occurs between middle and high tolerance teachers. Between phases B and C, the gap in code-switching behaviour widens between low and middle tolerance teachers. An explanation for this development will be discussed in more detail in the upcoming functional analysis of teachers' use of multiple languages in the same classroom (5.4.5 in particular).

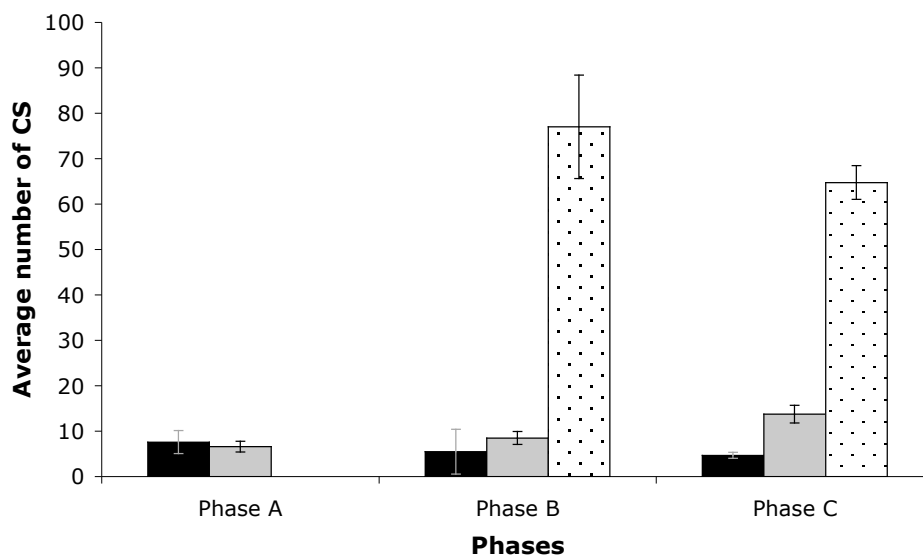


Figure 5.4: Average number of teacher-initiated code-switches into Luxembourgish per 50-minute lesson for low, middle and high tolerance teachers. Black = low tolerance teacher, grey = middle tolerance teacher, dotted = high tolerance teacher. Error bars = standard error.

To sum up, teachers classified as low, middle and high tolerance types demonstrate largely different attitudes towards student-initiated code-switching

into Luxembourgish as well as different patterns of language behaviour both in terms of the amount of speech uttered in French, German and Luxembourgish and the number of code-switches they initiate into Luxembourgish.

5.3 Pragmatic functions of classroom code-switching

5.3.1 Code-switching taxonomy

Code-switching researchers have employed a myriad of labels when describing the various outcomes of language contact involving the use of more than one language in the same conversation. A major distinction has been made between code-switching and code-mixing; however, confusions arise in the definition of these labels between different authors. The distinction between code-mixing and code-switching is often based on whether the language alternation phenomena occur within the same sentence and affect single lexical items (code-mixing) or across sentence boundaries and involve longer stretches of speech (code-switching) (Gardner-Chloros, 2009: 13). Other researchers such as Meisel (1989) restrict the label of code-mixing to the description of grammatically fused systems and only employ the term code-switching to describe language alternation phenomena fulfilling pragmatic functions such as topic shifts and next speaker selection (Gardner-Chloros, 2009: 13). Considerable overlap exists between the various labels and a clear definition of the terminology to be used in the remainder of this thesis is therefore required.

The subsequent analyses are based on the two-fold classification of language alternation phenomena proposed by Auer (1984) where a distinction is made between code-switching and transfer (see 2.3.4 for further details). Code-switching involves multiple word switches and leads to a redefinition of the language of the following interaction. According to Auer, a code-switch is tied to a particular point in time in the conversation and the return into the first language cannot be easily predicted. Extract 5.3 shows an example of a teacher-initiated

code-switch into French. Once orders in relation to an upcoming class test have been given in Luxembourgish (lines 1-4), the teacher code-switches into French when shifting towards the transmission of curriculum content (line 5). This instance of language alternation is closely tied to a particular point in time, namely the boundary between giving the instructions regarding the class test and the start of curriculum content transmission. In addition, the switch in line 5 involves multiple words and a switch back into Luxembourgish cannot be easily predicted.

1 Teacher: **sou maer hu muar Prüfung huh dir bleift hei am Sall**
 2 **de Festsall ass mengen ech nach net fräi oder ass den**
 3 **Examen scho faerdeg nee ech mengen net an daer**
 4 **setzt d'Bänken awer aaneschtes sou bëssen ajo sou**
 5 alors on continue avec uh la division euclidienne je crois.

1 Teacher: **now we have a class test tomorrow you stay here in**
 2 **this classroom the auditorium is not free yet or are the**
 3 **exams already over no I don't think so and you'll put**
 4 **the desks in a different order like this oh yes**
 5 now we will continue with the Euclidean division I think.

Extract 5.3: An example of a code-switch from Luxembourgish into French. Regular font = French, Bold font = Luxembourgish.

Transfer, on the other hand, is closely tied to a specific conversational structure such as a word or an expression and it does not lead to a redefinition of the language of the following interaction (Auer, 1984). In other words, the switch of language only applies to a specific word or expression. The three instances of transfer that occur in extract 5.4 are closely linked to specific lexical items. Transfer into French occurs for the single lexical items 'ceremony' and 'etiquette' as well as for the phrase 'the king the absolute monarch'. These instances of

language alternation are closely connected to particular lexical items and they do not result in a change of the language of interaction. Individual French words are embedded into Luxembourgish which remains the conversational language for the remainder of the utterance.

- 1 Teacher: **hei dir huelt dat eent dass der et awer iech**
2 **widderhuelt wat mer lo am Buch do gesot hunn**
3 **iwwert** le ceremonial **an d'etiquette an hei deen éischte**
4 **Punkt** le roi monarque absolu.
- 1 Teacher: **now you take this part so that you revise what we have**
2 **just talked about in the textbook about** the ceremony
3 **and the** etiquette **and the first bullet**
4 **point** the king absolute monarch.

Extract 5.4: An example of transfer from Luxembourgish into French. Regular font = French, Bold font = Luxembourgish.

In subsequent analyses, language alternation phenomena involving single lexical items or phrases are coded as transfer whereas larger conversational structures such as sentences or multiple words which do not form a predetermined phrase or expression are coded as code-switching.

Extensive research into the workings of bilingual classrooms has revealed the high degree of functionality of different types of language alternation (2.4.7). However, among educational policy-makers classroom code-switching is frequently regarded as bad practice and discouraged in official medium of instruction policies (Ferguson, 2003: 38). Luxembourg's current education system is based on a separation approach to bilingual education (2.5.2) where classroom code-switching does not constitute an integral part of official medium of instruction policies. This chapter attempts to reveal some functions underlying

language alternation practices and focuses on the pragmatic functions of teacher-initiated code-switching and transfer. The analysis of Luxembourg teachers' code-switching and transfer practices will be based on Ferguson's (2003: 39) three-fold categorisation of classroom code-switching whereby the multitude of functions fulfilled by language alternation can be collapsed into three broad categories:

- Code-switching for curriculum access
- Code-switching for management of classroom discourse
- Code-switching for interpersonal relations

Ferguson's categorisation will be applied to both instances of code-switching and transfer as defined above. Further details concerning the three broad categories can be found in section 2.4.7. The three broad code-switching functions will be defined in more detail below by introducing various narrower functions within each of the three overarching categories. The narrow code-switching and transfer functions will be illustrated with data extracts. This qualitative analysis of teachers' language alternation practices will illustrate the strategic, yet unofficial, use of multiple languages in Luxembourg's classrooms. Once the various functions have been exemplified, their frequencies will be quantified and correlated with various external variables such as the three fieldwork phases and the categorisation of teachers (high, middle, low tolerance towards code-switching). Instances of language alternation into the official medium of instruction (French or German depending on fieldwork phase) are coded using two further functions (i.e. 'back to default' and 'written text or terminology') defined and exemplified in section 5.3.5.

5.3.2 Language alternation for curriculum access

This thesis distinguishes between two narrow functions of curriculum access code-switching labelled 'clarification' and 'metalinguistic'. The clarification function encompasses both direct and indirect forms of clarification. Direct forms

are defined as attempts by the teacher to clarify curriculum content through exemplification, repetition, elaboration and re-explanation of problematic subject matter. Indirect forms of clarification are undertaken through teacher-initiated comprehension checks. Code-switching which co-occurs with comprehension checks is deemed to be fulfilling a clarification function as a teacher-initiated comprehension check is ultimately aimed at ensuring that students have a clear understanding of the subject matter. Comprehension checks can take on various forms such as asking students whether they have understood the issues under consideration or requesting students to elaborate on the taught material. So forms of direct clarification such as elaboration, exemplification and repetition are closely linked to more indirect forms of clarification like comprehension checks. For instance, further explanation of difficult subject matter is often prompted by a comprehension check and vice versa. The close relationship between direct and indirect forms of clarification is at the origin of grouping these multiple realisations of subject matter clarification under one umbrella function labelled ‘clarification’. An analysis of the use and frequency of code-switches fulfilling this clarification function can help to answer the question of whether code-switching into Luxembourgish helps to convey curriculum content. Illustrations of teacher-initiated code-switches fulfilling direct clarification functions are provided below:

1 Teacher: la Swiss Re la Swiss Re est une compagnie de réassurance
 2 ici nous sommes à Londres c’est une construction très
 3 fameuse appelée la concombre **well se ausgesäit wéi eng**
 4 **Cornichong** la construction donc uh très fameuse .

1 Teacher: Swiss Re Swiss Re is reinsurance company here we are in
 2 London it is a very famous building called the cucumber
 3 **because it looks like a cucumber** the building is uh very

4 famous.

Extract 5.5: A teacher-initiated code-switch from French into Luxembourgish fulfilling a direct clarification function. Regular font = French, bold Font = Luxembourgish.

1 Teacher: alors si on divise donc par un binôme de cette forme alors
2 vous obtenez un reste c'est-à-dire le reste sera un nombre
3 qui ne prend pas de X **dat heescht egal welech Valeur**
4 **vum X welech Valeur dass ech dem X gin dat hei ass**
5 **ëmmer eng fix Zuel sou** alors je vais donner à X la
6 valeur alpha.

1 Teacher: now if you divide this by a binomial of this format you
2 get a residual which means the residual will be a number
3 that is not assigned an X **this means that no matter**
4 **what value of X what value I assign to X this always**
5 **remains a fixed number now** now I will assign to X the
6 value alpha.

Extract 5.6: A teacher-initiated code-switch from French into Luxembourgish fulfilling a direct clarification function. Regular Font = French, bold Font = Luxembourgish.

Extracts 5.5 and 5.6 display examples of teacher-initiated code-switching fulfilling direct clarification functions such as elaboration and repeated explanations. In extract 5.5 the students and teacher discuss differences in modern architecture in various major cities across the world while referring to photos in their textbooks. The teacher explains that the London headquarters of global reinsurance company Swiss Re are located in a building called 'the cucumber' and subsequently code-switches into Luxembourgish to clarify that the building's shape is reflected in its name (line 3). Extract 5.6 contains a further example of teacher-initiated code-switching into Luxembourgish for clarification purposes.

During a mathematics lesson focusing on binomials, the teacher code-switches from French into Luxembourgish to clarify a particular aspect of a calculation which is written on the blackboard (line 3). The code-switch starts with the words ‘this means’ indicating that the teacher is providing clarifying information.

In addition to fulfilling functions of direct clarification, teacher-initiated code-switches frequently co-occur with comprehension checks. In extract 5.7, the teacher introduces a physics experiment and encourages students to think about the different forces that operate when a car moves off a surface covered with gravel. In line 4, the teacher code-switches into Luxembourgish when checking whether the students are familiar with the French word for gravel. This code-switch is interpreted as fulfilling a clarification function as the teacher’s check of the student’s understanding of the relevant terminology ultimately clarifies the experiment. Interestingly, this comprehension check (indirect form of clarification) carried out in Luxembourgish is followed by direct clarification in Luxembourgish in lines 7 and 8. This provides evidence for the intricate link between direct and indirect forms of clarification. Extract 5.8 displays the opposite scenario where a code-switch into Luxembourgish for direct clarification purposes (line 3) is immediately followed by a comprehension check, or in other words an indirect form of clarification (line 3).

- 1 Teacher: on va faire une experience par la pensée on va on va se
2 mettre dans la voiture et on veut démarrer on démarre le
3 moteur on veut démarrer on veut partir avec la voiture et
4 imaginons nous qu’on est sur du gravier gravier **wéi seet**
5 **een dat op Lëtzebuergesch?**
6 Debbie: **Kräsi.**
7 Teacher: **Kräsi si mer um Kräsi den auto hält um Kräsi a maer**
8 **wëlle lo ufueren** sur le gravier qu’est ce qu’on observe
9 normalement?

- 1 Teacher: we are going to do a mental experiment we are going to
2 put ourselves into a car and we want to start we start the
3 engine we want to start we want to drive off with the car
4 and let's imagine that we are on gravel gravel **how would**
5 **you say that in Luxembourgish?**
6 Debbie: **gravel.**
7 Teacher: **gravel we are on gravel the car is parked on gravel**
8 **and we want to drive off** on gravel what can we observe
9 normally?

Extract 5.7: A teacher-initiated code-switch from French into Luxembourgish co-occurring with a comprehension check and followed by further clarification. Regular font = French, Bold font = Luxembourgish.

- 1 Teacher: vous avez le vecteur rouge et ensuite il faut chercher
2 maintenant le représentant qui a même pour origine le
3 point P **dat heescht parallel zum A C versti der dat?**

- 1 Teacher: you have the red vector and then you need to find the
2 representative which has at its origin the point P
3 **which means parallel to A C do you understand that?**

Extract 5.8: A teacher-initiated code-switch from French into Luxembourgish fulfilling a clarification function and followed by a comprehension check. Regular font = French, Bold font = Luxembourgish.

The second narrow code-switching function subsumed under the curriculum access category carries the label 'metalinguistic'. This function is adapted from Raschka *et al.* (2009: 161) and applies to instances of language alternation where lesson tasks are carried out in the official medium of instruction (French or German depending on fieldwork phase) and any talk about the task such as

comments and evaluation are performed in Luxembourgish. Code-switches into Luxembourgish fulfilling a metalinguistic function are included in the curriculum access category as the content of code-switched segments is directly related to curriculum content and does not mark a shift away from teaching subject matter. Code-switches fulfilling metalinguistic functions typically consist of comments that are directly related to curriculum content without providing direct or indirect clarification of subject matter. In extract 5.9, the teacher explains how to solve an equation which is written on the blackboard and highlights that students should pay attention to the minus and plus signs in the equation. In line 3, the teacher code-switches when commenting on the fact that students have previously been taught this particular aspect of equation solving in the seventh grade. While this comment is directly related to the actual task at hand (equation solving), it is not crucial information required to understand the teacher's explanation. This metalinguistic code-switch is interpreted as an aside that is nevertheless closely connected to the transmission of curriculum content and therefore differs from code-switching fulfilling the 'off-lesson concern' function to be illustrated in section 5.3.3.

1 Teacher: moins six exposant deux ok et ensuite on a ajouté mais il
 2 faut pas il faut pas attention ne pas oublier ce signe
 3 **sou wat hu mer op septième geléiert** si vous avez une
 4 parenthèse qui est précédée d'un signe moins et je veux
 5 me débarasser de la parenthèse Martin?

1 Teacher: minus six to the power of two OK and then we have
 2 added but you must not you must not watch out do not
 3 forget this sign **now what did we learn in the seventh**
 4 **grade** if you have brackets that are preceded by a minus
 5 sign and I want to get rid of the brackets Martin?

Extract 5.9: A teacher-initiated code-switch from French into Luxembourgish fulfilling a metalinguistic function. Regular font = French, Bold font = Luxembourgish.

Extract 5.10 displays a further teacher-initiated code-switch fulfilling a metalinguistic function. Prior to this moment students have been repeatedly making the same mistake when solving equations and the teacher now introduces a different approach to equation solving intended to help students avoid making this particular mistake. In line 1, the teacher code-switches into Luxembourgish when mentioning that some students may find this new method easier and he subsequently switches back into French when talking directly about the new method (line 2). The code-switched segment consists of an evaluative comment about the alternative equation solving method. As in extract 5.9 presented above, this aside does not mark a shift away from curriculum content teaching but merely represents the teacher's opinion and his evaluation of a new equation solving method. Metalinguistic code-switches do not provide crucial information for the understanding of lesson content. However, the information which is conveyed in code-switches fulfilling a metalinguistic function is directly relevant to the curriculum content and therefore must be included within the 'curriculum access' category.

1 Teacher: je vous indique maintenant une méthode pratique **do si**
 2 **vläicht Leit déi dat heiten méi einfach fannen** je vous
 3 indique maintenant ma méthode la façon de ne pas faire
 4 cette erreur.

1 Teacher: I will tell you now about a practical method **there may**
 2 **be people who find this easier** I will tell you now my
 3 method the way you can avoid making this mistake.

Extract 5.10: A teacher-initiated code-switch from French into Luxembourgish fulfilling a metalinguistic function. Regular font = French, Bold font = Luxembourgish.

The exemplification of the 'clarification' and 'metalinguistic' functions demonstrates that code-switching for 'curriculum access' undoubtedly contributes

to subject matter teaching. Teachers skilfully alternate between the official medium of instruction (French or German) and Luxembourgish to help students understand curriculum content officially taught in French or German. All the data originate from non-language classes where the ultimate goal consists of teaching subject matter such as biology, physics, geography and mathematics. Language alternation for curriculum access constitutes a teacher's resource to ensure that students who are not officially taught in their native language(s) fully understand and can engage with the various learning activities.

5.3.3 Language alternation for the management of classroom discourse

In addition to facilitating students' understanding of curriculum content, code-switching and transfer also function as a tool for the management of classroom discourse (Ferguson, 2003: 42). This thesis distinguishes between various narrow functions of classroom discourse management. According to Ferguson (2003: 42), instances of language alternation grouped under this umbrella function generally contextualise a shift of "frame" (Goffman, 1974) away from lesson content and toward some "off-lesson" concern'. The narrow functions subsumed under the 'management of classroom discourse' category and to be used for the subsequent quantitative analysis are the following:

1. Disciplining and praising
2. Specifying a particular addressee
3. Gaining attention and signalling a change in activity
4. Giving instructions
5. Other types of 'off-lesson' concern

Teacher-initiated code-switching and transfer into Luxembourgish frequently co-occur with instances of disciplining and praising (narrow function 1). As 'disciplining' and 'praising' represent opposite ends of the same spectrum, they are grouped under one function for the coding and quantification of the classroom

interaction data. Ferguson (2003: 42) argues that in classroom situations the language of the community emerges as the preferred language for ‘moral discourse’ such as disciplining and praising. Extract 5.11 displays two instances of teacher-initiated transfer into Luxembourgish that co-occur with giving praise to students. The class is discussing the vertical structuring of the plant and animal communities in terms of which animals and plants can be found in the tree layer, the undergrowth (i.e. shrubs and bushes) and the sub-terrain. In line 10, Jessica correctly answers the teacher’s earlier question when providing a good example of a type of shrub. In the following turn, the teacher then employs Luxembourgish when giving praise to her. Similarly, in line 17 we can observe an example of transfer into Luxembourgish when the teacher expresses his approval of the student’s answer by exclaiming ‘very good’. In both cases, the teacher clearly demonstrates his excitement and approval of the students’ ideas through gesture and facial expressions such as smiling.

- 1 Teacher: Spinnen gibt es auch in der Baumschicht wir haben
 2 eigentlich noch jemanden vergessen der auch wichtig ist
 3 denn wenn wir das Eichhörnchen in der Baumschicht
 4 haben dann haben wir auch noch einen anderen der sich
 5 da uh der herumspringt ja .
 6 Jessica: der Baumrarder .
 7 Teacher: ja der Baumrarder ist auch einer von denen die ganz
 8 wichtig sind in der Strauchschicht Pflanzen da wird es
 9 jetzt ein bisschen schwieriger ja .
 10 Jessica: Hollunder .
 11 Teacher: ah **ganz gutt** Holunder.

[...]

- 12 Teacher: dann diejenige die einmal dem Frost ausgesetzt werden
 13 sollte oder muss sogar damit man sie essen kann vorher

14 kann man sie auch essen dann zieht sich der Mund
15 zusammen und man redet nicht mehr so frei ja.
16 Tom: die Schlehe.
17 Teacher: die Schlehe **ganz gutt d'Schleiw** Schlehe ok dann
18 gehen wir zu den Tieren über.

1 Teacher: you can find spiders in the trees we have actually
2 forgotten about something else that is also important
3 because if we find squirrels in the trees then
4 we also find something else that is jumping around
5 there.
6 Jessica: the tree marten.
7 Teacher: yes the tree marten is one of the ones who are very
8 important in the bushes, with plants it will become a little
9 bit more difficult now.
10 Jessica: elderberry
11 Teacher: ah elderberry **very good**.

[...]

12 Teacher: now the plant that should or even must be affected by
13 frost at least once so that you can eat it, you can eat it
14 before but then your mouth will pull itself together and
15 you have difficulties speaking.
16 Tom: sloe.
17 Teacher: sloe **very good sloe** sloe OK let's turn towards the
18 animals.

*Extract 5.11: Examples of teacher-initiated transfer fulfilling a 'praising' function.
Regular font = German, Bold font = Luxembourgish.*

In extract 5.12, the teacher's code-switch into Luxembourgish coincides with an attempt to reinstate authority. The class is still discussing the variety of plants and their categorisation in terms of trees, undergrowth or sub-terrain. The teacher challenges the students to think of any plants that are fully underground. While Marc speaks aloud and responds to the teacher's request directly (line 4), other students start whispering to each other. The background noise becomes increasingly louder and the teacher finally reprimands students when saying with raised amplitude: 'I'm the only one speaking now and you do not have to add your comments to everything'. This disciplinary action co-occurs with a code-switch into Luxembourgish. Code-switching in this instance functions as a contextualisation cue (Gumperz 1982) (2.4.2) and adds emphasis to the teacher's reinstatement of authority. Code-switched elements fulfilling 'praising' and 'disciplining' functions clearly differ from curriculum access code-switching due to their shift away from curriculum content. Here, language alternation increases the effectiveness of the various strategies that teachers employ to signal approval or disapproval of students' behaviour. Whereas the code-switch for disciplining purposes in extract 5.12 is accompanied by raised amplitude in the teacher's voice, the instances of transfer for praising purposes (Extract 5.11) co-occur with the teacher's clear display of excitement and approval.

- 1 Teacher: wir gehen in die Bodenschicht zu erst mal die Pflanzen in
 2 der Bodenschicht ich rede jetzt von den Pflanzen nicht
 3 von Pflanzenteilen Pflanzen in der Bodenschicht ja.
 4 Marc: also Zwiebel.
 5 Teacher: nein das ist ein Pflanzenteil Knolle auch nicht überhaupt
 6 nichts es gibt keine Pflanzen unter der Erde aus einem
 7 guten Grunde und dieser Grund liegt auf der Hand **ech**
 8 **schwätze lo ganz eleng daer braucht nët aer**
 9 **Kommentaren zu allem ze man ja.**
 10 Kevin: sie können dann keine Photosynthese machen.

- 1 Teacher: let's turn to the soil now, first the plants underground I'm
2 talking about actual plants and not parts of plants, plants
3 that are fully underground yes.
- 4 Marc: well onions.
- 5 Teacher: no that is a plant part also no bulbs nothing there are no
6 plants that are fully underground there is a good reason
7 this reason is very obvious **I'm the only one speaking**
8 **now you do not have to add your comments to**
9 **everything** yes.
- 10 Kevin: they can't photosynthesise.

Extract 5.12: A teacher-initiated code-switch from German to Luxembourgish fulfilling a 'disciplining' function. Regular font = German, Bold font = Luxembourgish.

In addition to disciplining and praising, teachers engage in various other strategies helping them to manage classroom discourse. Instances of language alternation frequently occur when teachers specify particular addressees and interact with individual students as opposed to the group of students as a whole (narrow function 2). In Extract 5.13, the teacher code-switches from German to Luxembourgish to contextualise a shift of addressee. This biology lesson focuses on issues of overpopulation. The students have been discussing the various regulatory factors such as lack of food or death that are required to keep the size of a given animal population in a state of equilibrium. The teacher illustrates the natural processes involved in avoiding population explosions with the example of a small population of mice on an isolated island. German is employed when providing instructions and explanations regarding the biological drawing of a mouse in lines 1 to 5. While walking around the classroom, the teacher comments on individual students' drawings and switches into Luxembourgish when saying to Sarah in line 5 that her mouse looks like it has been hit by a lorry. Similarly, in lines 6 to 9 the teacher comments on the fact that Eva has drawn a moustache on

her mouse. Code-switching into Luxembourgish coincides with singling out individual students and is further characterised by a decrease in volume in the teacher's voice.

1 Teacher: da brauchen wir mindestens eine Halbe Seite im Heft und
2 ungefähr in die Mitte zeichnen wir eine Maus für
3 diejenigen die das weinger genau machen die bekommen
4 die Version light so Version light ah uh jeder die Maus
5 die ihm am besten zusteht aber das in den zwei nächsten
6 Minuten (.) **di do gesäit e bëssen aus wéi wa schon e**
7 **Kamion driwwer gefuer waer (.) oh hei hei ma déi ass**
8 **super déi do am Fong geholl e schéinen Detail dee**
9 **muss ech nach dobäi maachen** so um die Maus herum
10 schreiben wir all die Faktoren auf die dafür sorgen dass
11 es zu keiner Bevölkerungsexplosion kommt.

1 Teacher: here we need at least half a page in your notebooks and
2 roughly in the middle you will draw a mouse for those of
3 you who don't want to use too much detail you can draw
4 the 'light' version now the light version ah uh everyone
5 choose the mouse that they like best but do this in the
6 next two minutes **this one looks a bit like it's been hit**
7 **by a lorry (.) oh here here this one is great a nice**
8 **detail that I should add to mine** now around the mouse
9 we will write down all the factors that ensure that we do
10 not get a population explosion.

Extract 5.13: A teacher-initiated code-switch from German to Luxembourgish fulfilling the 'specifying a particular addressee' function. Regular font = German, bold font = Luxembourgish. (.) = pause.

A further example of a teacher's code-switch into Luxembourgish that coincides with addressing a single student is displayed in extract 5.14. The topic of this lesson centres around the different types of cities (e.g. capitals, political centres) that can be found across the world. In line 6, the teacher initiates a code-switch into Luxembourgish when commenting on Marc's request to be allowed to go to the toilet. This code-switch signals to all students that the upcoming information marks a shift of frame towards some 'off-lesson' concern that is aimed specifically at Marc. In line 11 (line 9 in translated extract), the teacher code-switches back into French when resuming the teaching of subject matter. The use of code-switching as an addressee specification device draws attention to the high degree of functionality of language alternation and that teachers in multilingual classroom dispose of additional tools for the management of classroom discourse compared with teachers working in monolingual contexts.

- 1 Teacher: oui là également c'est une nouvelle ville qui a été
2 instaurée comme centre politique et à ce moment là donc
3 très ceci nous ramène aux différentes villes dans les
4 différents continents de notre planète Marc a encore une
5 question.
- 6 Marc: uh je peux aller aux toilettes s'il-vous-plaît.
- 7 Teacher: **eng schwaach Blooss.**
- 8 Marc: **jo mee.**
- 9 Teacher: **wéi waer et dann wanns du géings zing op eng goen**
10 **déi nächste Kéier a Plaatz zwanzeg vir zwou fir**
11 **d'lescht** à la page cent cinquante-trois de votre livre vous
12 avez les modèles de différentes villes que nous allons
13 regarder un peu plus en détail maintenant.
- 1 Teacher: yes this is also a new city that was installed as a political
2 centre and at that moment very this brings us to other
3 cities on other continents of our planet Marc still has a

4 question.
5 Marc: uh could I please go to the toilet.
6 Teacher: **a weak bladder.**
7 Marc: **yes but.**
8 Teacher: **how about next time you go at ten past one instead of**
9 **twenty to two for the last time** at page one hundred and
10 fifty-two in your textbook you find the models of
11 different cities that we are now going to look at in more
12 detail.

Extract 5.14: A teacher-initiated code-switch from French to Luxembourgish fulfilling the 'specifying a particular addressee' function. Regular font = French, bold font = Luxembourgish.

In addition to specifying a particular addressee or disciplining and praising students, teachers code-switch from the official medium of instruction into Luxembourgish in order to gain students' attention and to signal changes in activity (narrow function 3). In extract 5.15, we find several examples of teacher-initiated transfer into Luxembourgish coinciding with discourse markers. Bilingual speakers' use of discourse markers is frequently accompanied by forms of language alternation such as code-switching or transfer (Maschler, 2000: 437). Discourse markers can be defined as elements that function as bracketing devices in discourse and that ultimately contribute to the structuring of talk (Schiffrin, 1987: 31). De Rooij (2000: 448) relates the connection between discourse markers and language alternation to Gumperz's (1982: 131) notion of contextualisation cues (see 2.4.2 for further details). Gumperz describes code-switching as a type of contextualisation cues which are defined as elements contained in a speaker's utterance that signal to interlocutors how the semantic content of the speaker's utterance is to be understood. According to De Rooij (2000: 448) discourse markers must also be viewed as a type of contextualisation cue. Language alternation and discourse markers, therefore, both function as signalling devices by which interlocutors convey semantic content in their utterances. Research has

shown that different types of contextualisation cues have a tendency to co-occur in discourse (Auer, 1992: 29-30) and De Rooij (2000: 448) argues that the clustering of discourse markers and instances of language alternation enhances the saliency of discourse markers. In other words, bilingual speakers frequently employ language alternation in conjunction with discourse markers (and vice versa) in order to maximise their effectiveness as tools which enhance the structure of utterances (De Rooij, 2000: 466).

The teacher's short utterance in extract 5.15 contains four different requests uttered in French and separated by Luxembourgish discourse markers. In line 1, the teacher's request for Marc to come up to the blackboard is carried out in French. The following request directed at all students to show evidence of their homework is preceded by an instance of Luxembourgish transfer coinciding with the Luxembourgish discourse marker 'sou' (line 2). In line 3, the teacher asks all students to calm down which is in turn preceded by a code-switched discourse marker. Line 4 contains a further Luxembourgish discourse marker embedded in a French utterance signalling a further change in request as this time the teacher asks Marc to speak aloud while carrying out a calculation at the front of the classroom. The Luxembourgish discourse markers are all accompanied by pauses. Consequently, transfer and code-switching can act as structuring devices and help teachers to gain students' attention when introducing new topics, ideas and requests. Teachers strategically employ more than one language to structure the fast-paced and highly variable nature of classroom interactions.

1 Teacher: **Marc wars du schon un der Tafel** sans grogner et sans
 2 il y a seulement les cochons qui grognent **sou** vous me
 3 montrez votre préparation s'il-vous-plaît psht **sou** alors
 4 on se calme s'il-vous-plaît **sou** et on parle au tableau.

1 Teacher: **Marc have you been up to the blackboard yet** without

2 grumbling without it's only pigs that grumble **now** you
3 will all show me your preparation please psst **now** now
4 we will calm down please **now** and we speak up at the
5 blackboard.

Extract 5.15: Instances of teacher-initiated transfer from French into Luxembourgish fulfilling the 'gaining attention and signalling a shift in activity' function. Regular font = French, bold font = Luxembourgish.

A further crucial element of classroom discourse consists of giving instructions (narrow function 4). While teachers' instructions can be closely connected to curriculum content, they are nevertheless subsumed under the management of classroom discourse category in this thesis. This step was taken as teachers' instructions rarely contribute to the students' understanding of subject matter or introduce and explain new concepts related to curriculum content. Instructions frequently mark a shift of frame towards some 'off-lesson' concern such as asking students to wipe the blackboard, open their textbooks or close the window. Additionally, teachers frequently code-switch into Luxembourgish when setting homework. The interaction represented in extract 5.16 takes place at the end of a history lesson focusing on the French Revolution. The teacher discusses which materials the class will use during the next lesson and shows the class some sheets that she wants them to photocopy. Eric, who is in charge of photocopying teaching materials, has difficulties walking due to an injury and the teacher, therefore, instructs other students to carry out the task (line 5). Once she has given instructions in Luxembourgish, the teacher switches back into French to signal to students that the lesson has come to an end (line 9).

1 Teacher: on pourra travailler en effet avec peut-être l'avantage de
2 manuels parce qu'il y a des cartes donc vous avez ici
3 l'essentiel de la révolution nous apportons peut
4 être qu'on fera encore une ou l'autre photocopie (.)
5 **maach een den Eric ass schlecht zu Fouss kéint een fir**

- 6 **déi nächst Stonn awer vläicht nach di heite Photocopie**
7 **maachen.**
- 8 Joe: **ech ech ginn.**
- 9 Teacher: bon alors on va s'arrêter là.
-
- 1 Teacher: we will in fact be able to work with maybe the advantage
2 of textbooks because there are some maps but here you
3 have the essential information about the revolution we
4 will maybe bring we will also make one or the other
5 photocopy (.) **someone do this as Eric has trouble**
6 **walking could someone photocopy this for the next**
7 **lesson.**
- 8 Joe: **me I'll go.**
- 9 Teacher: well we will stop here then.

Extract 5.16: A teacher-initiated code-switch from French into Luxembourgish when giving instructions to students. Regular font = French, Bold font = Luxembourgish. (.) = pause.

The final function subsumed under the classroom discourse management category is employed to code any instances of language alternation that mark a shift of frame towards some 'off-lesson' concern other than disciplining/praising, addressee specification, attention gaining or instruction giving (narrow function 5). The data displayed in extract 5.17 originates from a geography lesson focusing on the distribution of wealth across different countries. Towards the end of the lesson, the teacher explains a categorisation task that students are required to complete at home and announces the topic for the following lesson (lines 1-7). In line 8, the teacher code-switches into Luxembourgish when commenting on the high temperature in the classroom and argues that the extreme heat is caused by the fact that school buses, with running engines, are parked outside the open classroom windows. This comment marks a shift away from curriculum content transmission and is bracketed off through a code-switch into Luxembourgish.

Similarly, the teacher in extract 5.18 code-switches into Luxembourgish when asking students whether the school bell has already rung. This question does not consist of subject matter teaching and the teacher marks it as an aside through his use of Luxembourgish.

1 Teacher: l'Europe vous rassemblez sous un nom vous n'allez pas
2 reprendre tous les noms des pays européens ensuite
3 entre le nord et le sud vous avez deux catégories les
4 uns sont les pays pétroliers les autres sont la Russie
5 et l'Europe de l'Est qui sont entre les deux également
6 en transition voilà et la prochaine fois nous
7 allons donc continuer avec les puissances
8 **et wuar awer lo warm gin mee dat ass de Problem**
9 **hei mat well di Bussen just nierwendrunn sinn.**

1 Teacher: you will group Europe under one name you will not
2 repeat all the names of the individual European countries
3 then between the north and the south you have two
4 categories on the one hand you have the oil countries and
5 on the other hand you have Russia and Eastern Europe
6 which are in between the two they are also in transition
7 there you go and the next time we will continue with the
8 powers **it got hot in here now but that's the problem**
9 **with because these buses are right next to us.**

Extract 5.17: A teacher-initiated code-switch from French into Luxembourgish coinciding with a shift of frame towards 'off-lesson' concern. Regular font = French, bold font = Luxembourgish.

1 Teacher: qu'est ce qu'on appelle le rapport de projection **et huet jo**
2 **nach net fir eis geschelt.**
3 Julia: **nee.**

4 Teacher: **sou** rapport de projection parce qu'on projette les points
5 parallèlement à une même direction.

1 Teacher: what do we call the projection **the bell hasn't rung yet**
2 **for us?**

3 Julia: **no.**

4 Teacher: **now** projection because we project the points parallel to
5 the same direction.

Extract 5.18: A teacher-initiated code-switch from French into Luxembourgish coinciding with a shift of frame towards 'off-lesson' concern. Regular font = French, bold font = Luxembourgish.

The various narrow functions of language alternation for the management of classroom discourse draw attention to the fact that teachers strategically employ multiple languages in the same classroom. Language alternation is not random and provides teachers with an effective tool for the management of classroom discourse. Switching between different languages functions as a 'contextualisation cue' (Gumperz, 1982) helping teachers to add effectiveness and salience to, for example, instances of disciplining/praising and attempts to gain the students' attention. Whereas language alternation for 'curriculum access' is intended to clarify and convey subject matter, language alternation for the 'management of classroom discourse' functions as a structuring device helping students to follow and to distinguish between the various parts of a school lesson (e.g. curriculum content transmission, instruction giving, disciplining, praising, etc.).

5.3.4 Language alternation for interpersonal relations

While the classroom constitutes primarily a teaching and learning environment, it also represents a context where students and teachers build relationships with each other. In her study of English-Maltese bilingual classrooms, Camilleri (1993:

164) reveals that teachers frequently code-switch from English, the official medium of instruction, into Maltese, the local language, in order to establish rapport with the students. This type of code-switching draws attention to the social and affective functions of language alternation. While multiple languages can be used to ensure successful transmission of curriculum content (i.e. clarification function), teachers can also engage in classroom code-switching to build closer relationships with their students. Teachers alternate between different languages in order to take on multiple roles in the classroom (Ferguson, 2003: 43). While their primary role consists of teaching and conveying curriculum content, teachers are also members of the local community and often share linguistic and cultural values with their students. Ferguson (2003: 43) describes code-switching into the local language as a teacher's means to step out of their pedagogical role from time to time and to take on the role of a community member sharing the same background as their students. Navigating between different personas ultimately contributes to establishing rapport with students as it accentuates the features and attributes that teachers and students have in common.

This final category of language alternation for interpersonal relations shares similarities with some of the narrower functions of classroom discourse management code-switching (i.e. praising students). In order to facilitate the quantification of language alternation, the following two narrow functions of code-switching for interpersonal relations have been established:

1. Humour
2. Navigating between identities (teacher vs. member of the local community)

Only instances of language alternation coinciding with joking or a teacher's attempt to step out of his or her pedagogical role are coded as fulfilling an 'interpersonal relations' function. Both subcategories of 'interpersonal relations'

code-switching enable teachers to establish rapport and ultimately narrow the gap between the role of the teacher and the role of the student.

The interaction displayed in extract 5.19 originates from a mathematics lesson focusing on geometry equations. Alice is drawing a geometrical figure on the blackboard and struggles to find the right terminology (line 2) to answer the teacher's question (line 1). In line 5, the teacher jokingly suggests that Alice should try singing the answer as this may help her to find the right words. The teacher's joke coincides with a code-switch into Luxembourgish (narrow function 1). In line 7, the teacher comments on the bossy behaviour of Sarah, another student in the class, who is not directly involved in this interaction. Sarah has been telling off Tom who sits next to her. The teacher code-switches into Luxembourgish when jokingly alluding to the fact that Sarah's bossy behaviour leads him to believe that she is already married. The teacher extends his joke about marriage in the following lines when claiming that marriage is worse than a cold.

- 1 Teacher: alors on a deux droites ensuite qu'est-ce qu'on a encore.
2 Alice: uh uhm des des des.
3 Teacher: des des des.
4 Alice: des segments.
5 Teacher: **du kanns och sangen (.) nee wat hu mer.**
6 Alice: des droites parallèles.
7 Teacher: des droites parallèles **du bass bass du scho bestued du**
8 **mess dat scho gutt (.) Marc firwat houschst du?**
9 Marc: **ech sinn e bëssen erkaalt.**
10 Teacher: **ah bëssen erkaalt ech hu geduecht du wiers bestued**
11 **dat ass schlëmmer wéi erkaalt.**

- 1 Teacher: now we have two lines then what else have we got?
2 Alice: uh uhm the the the.

- 3 Teacher: the the the.
- 4 Alice: the segments.
- 5 Teacher: **you can sing it too (.) no what have we got?**
- 6 Alice: parallel lines.
- 7 Teacher: parallel lines **you are are you already married you are**
- 8 **very good at this (.) Marc why are you coughing?**
- 9 Marc: **I have a bit of a cold.**
- 10 Teacher: **ah a bit of a cold I thought you were married because**
- 11 **that is worse than a cold.**

Extract 5.19: Teacher-initiated code-switching from French into Luxembourgish coinciding with joking and building rapport. Regular font = French, bold font = Luxembourgish. (.) = pause.

Extract 5.20 displays a further instance of code-switching into Luxembourgish coinciding with joking. At the end of line 3, Alice has finished solving an equation. The teacher code-switches into Luxembourgish when asking Alice to carry on with the next equation. The teacher makes this request in the form of a sarcastic comment stating that Alice has a very pleasant voice. This claim is contextualised as a joke by both the teacher's code-switch into Luxembourgish and the fact that he is smiling. The teacher's joking detracts from the formality of the classroom situation and by simultaneously code-switching from French, the official medium of instruction, into Luxembourgish the teacher is able to maximise the informal nature of his joke.

- 1 Alice: sept virgule cinq plus X.
- 2 Teacher: plus X OK.
- 3 Alice: uhm est égal à trois fois quatorze.
- 4 Teacher: trois fois quatorze **fur virun du hues sou eng agreabel**
- 5 **Stëmm.**
- 6 Alice: uhm quinze plus deux X.

- 1 Alice: seven point five plus X.
- 2 Teacher: plus X OK.
- 3 Alice: uhm equals three times fourteen.
- 4 Teacher: three times fourteen **keep going you have such a**
- 5 **pleasant voice.**
- 6 Alice: uhm fifteen plus two X.

Extract 5.20: Teacher-initiated code-switching from French into Luxembourgish coinciding with joking and building rapport. Regular font = French, bold font = Luxembourgish.

In extract 5.21 the teacher code-switches into Luxembourgish when projecting her identity as a member of the local community (narrow function 2). The topic of the lesson centres around demography with a particular focus on the social composition of different populations. The teacher code-switches into Luxembourgish when providing students with a local example of a town area that used to be almost exclusively inhabited by Italian immigrants in the past (line 5). In this instance the teacher conveys local knowledge and by code-switching into the local language accentuates her Luxembourgish background. By discussing a local example in the local language, the teacher enables students to share their own experiences. At this moment, the teacher ceases to be the sole person who is able to convey knowledge. In fact, Anne gives evidence of her more recent experiences with the same town area. The roles of teacher and learner have become less distinct as both students and teacher can now be considered as members of the same community involved in sharing and exchanging knowledge. Code-switching into the local languages adds effectiveness to the teacher's navigation between different roles and identities.

- 1 Teacher: il me semble que nous avons dit un ghetto c'est un
- 2 quartier où il y a une ethnie donc si vous avez une mixité
- 3 c'est peut être pas à l'origine c'était un quartier italien de
- 4 même que le quartier qui s'appelle à Esch qui s'appelle

- 5 **d’Hiel hannert der Barrière do beim Conservatoire do**
6 **war fréier oft den typeschen italiensche Quartier.**
- 7 Anne: **nach ëmmer.**
- 8 Teacher: **genannt och uh genannt och mol iwwerleen**
9 **d’Blutkaul well do ganz vill Messerpickereien an der**
10 **Zäit waren.**
- 11 Anne: **lo nach ëmmer.**
- 12 Teacher: **nach ëmmer jo bein dat ass awer net bein dat ass uh**
13 **d’Disokoen an d’Cafeen an sou Saachen jo (.) donc**
14 *voilà pour la couche sociale et quelques exemples de*
15 *ghetto les evolutions ensuite le dernier alinéa.*
- 1 Teacher: *it seems to me that we said that a ghetto is an area where*
2 *there is only one ethnic group therefore if you have a*
3 *mixture now it was maybe not originally it was an Italian*
4 *area the same as the area in Esch that is called*
5 **Hiel behind the rail crossing next to the music school**
6 **that used to be the typically Italian area in the old**
7 **days.**
- 8 Anne: **still is.**
- 9 Teacher: **also known as the bloodhole because there used to be**
10 **so many stabbings.**
- 11 Anne: **still the same.**
- 12 Teacher: **still yes well that’s not because well that is uh all the**
13 **nightclubs and pubs and things like that yes (.) now so**
14 *much about social classes and a few examples of ghettoes*
15 *the developments now the next paragraph.*

Extract 5.21: Teacher-initiated code-switching from French into Luxembourgish coinciding with the teacher’s display of her identity as a member of the local community. Regular font = French, Bold font = Luxembourgish.

5.3.5 Functions of code-switching and transfer into the official medium of instruction

The quantitative analysis of teachers' language behaviour takes into account both switches out of and into the official media of instruction. While a multitude of pragmatic functions underlie code-switching and transfer into Luxembourgish, for the purposes of this thesis only two functions have been identified for the analysis of code-switching and transfer from Luxembourgish into the official medium of instruction (French or German depending on fieldwork phase). Code-switches into Luxembourgish are almost always followed by teacher-initiated code-switches back into French or German. This can be attributed to the rigid nature of the official medium of instruction policies governing Luxembourg's classrooms. The preceding exemplification of code-switching and transfer into Luxembourgish for curriculum access, classroom discourse management and interpersonal relations has demonstrated that teachers strategically use Luxembourgish to fulfil temporary goals. Once the teacher's goal, such as disciplining a student or clarifying a difficult concept, has been attained the language of interaction is frequently switched back to French or German as these languages are officially prescribed for classroom discourse and teachers are officially obliged to teach in French or German.

The first function of code-switching into French and German reflects this influence of the official guidelines regulating language use in the classroom and is labelled 'back to default'. In extract 5.21, the teacher's code-switch into Luxembourgish to display her role as a member of the local community is followed by a code-switch back into French in line 13. When the teacher abandons her role as a member of the local community and resumes her role as a teacher, she code-switches back into French, the official medium of instruction. Similarly, in extract 5.13 once the teacher has finished addressing individual students in Luxembourgish, he code-switches back into German which is imposed

as the default language through the official medium of instruction policies (line 8).

Classroom discourse is characterised by a constant interaction between the speakers (i.e. teacher and students) and the written text (Camilleri, 1993: 157). The written text, regardless of its form (e.g., textbook, handout, blackboard) provides a structure to classroom activities and is continuously referred to by both teachers and students. Extract 5.22 displays multiple instances of transfer into French when the teacher and the students refer to the written text. This second function of code-switching and transfer into the official medium of instruction is labelled ‘written text and terminology’. Due to the official ban of Luxembourgish as a language of instruction, all textbooks and written learning materials are printed in either French or German and are frequently imported from the neighbouring countries. In extract 5.22, the class discuss what material they have to revise for their upcoming test. Teacher and students look through their notebooks and mention the topics that they have to revise. Various concepts related to their study of different philosophers such as ‘separation of powers’ and ‘meeting places’ are mentioned in French as these terms are printed in their textbooks.

- 1 Teacher: **jo kuckt aer Philosophen uh do.**
2 Tom: **de Montesquieu hate mer.**
3 Teacher: **de Montesquieu hat der d’séparation des pouvoirs hat**
4 **der jo mat engem.**
5 Marc: **bei de maisons privées mat den x di di réflexion vun de**
6 **Philosophen.**
7 Teacher: **ah jo dat uh dat ass mat de Clubben mat den uh**
8 **salons privés dat hat der mengen ech schon fir déi**
9 **lescht Prüfung.**
10 Tom: **jo jo.**
11 Teacher: **d’Saloen an all di Saachen d’lieux de recontres dat hu**

- 12 **mer alles gesinn.**
- 1 Teacher: **yes study the philosophers.**
- 2 Tom: **we have already had Montesquieu.**
- 3 Teacher: **you have had Montesquieu the** separation of powers
- 4 **you had with one.**
- 5 Marc: **with the** private houses **with the x the the** thoughts of
- 6 **the philosophers.**
- 7 Teacher: **oh yes that's the stuff with the clubs with the uh**
- 8 private clubs **I think you had that in your last class**
- 9 **test.**
- 10 Tom: yes yes.
- 11 Teacher: **the clubs and all these things the** meeting places **you**
- 12 **have already seen that.**

Extract 5.22: Examples of transfer into the French fulfilling the 'written text and terminology function'. Regular font = French, bold font = Luxembourgish.

5.3.6 The multifunctionality of language alternation

The preceding sections have drawn attention to the high degree of functionality of language alternation phenomena such as code-switching and transfer. Teachers strategically employ multiple languages in the same classroom to fulfil temporary goals such as disciplining students, clarifying difficult concepts and establishing rapport. The variety of functions outlined above provide support for the claims by several researchers (Ferguson, 2000; Raschka *et al.*, 2009; Liebscher & Daily O'Cain, 2005; Probyn, 2009; McGlynn & Martin, 2009; Üstünel & Seedhouse, 2005) that code-switching must be regarded as a skilful asset contributing to a speaker's communicative competence. The numerous examples of code-switching and transfer are in line with Gumperz's definition of code-switching as a

contextualisation cue helping speakers to signal how they would like their utterances to be understood and interpreted (2.4.2).

While distinct overall functions (i.e. ‘curriculum access’, ‘classroom discourse management’, ‘interpersonal relations’) as well as narrower functions of language alternation can be identified, allocating a single function to each token of code-switching can be a difficult task. Code-switches can simultaneously fulfil multiple functions (Rascka *et al.*, 2000: 161). In extract 4.23, the teacher code-switches into Luxembourgish when disciplining a particular student. This code-switch fulfils both an ‘addressee specification’ and a ‘disciplining’ function. In line 6, the teacher initiates a code-switch into Luxembourgish when specifically addressing Laurent. Due to the fact that the teacher calls the student by his name and directly looks at him (observation from fieldwork notes) when code-switching into Luxembourgish, this instance of classroom code-switching is interpreted as fulfilling an ‘addressee specification’ function. Having singled out a specific student by code-switching into Luxembourgish, the teacher threatens Laurent with some form of punishment if he does not stop misbehaving in the remainder of the Luxembourgish section of his utterance (line 6). As the Luxembourgish part of the teacher’s utterance not only coincides with an attempt to specify a particular addressee but also with disciplinary action, this particular code-switch is coded as fulfilling two functions (‘addressee specification’ and ‘disciplining’). Different functions of code-switching can interact, sometimes making it difficult for the analyst to attribute individual functions to particular instances of code-switching. However, the multiple functions that can be fulfilled by individual tokens of code-switching are often closely related. In fact, the ‘disciplining’ and ‘addressee specification’ functions fulfilled by the teacher-initiated code-switch in extract 5.23 are both subsumed under the ‘management of classroom discourse’ function. Issues regarding the multifunctionality of language alternation for the quantitative analyses will be addressed in section 5.4.1.

1 Teacher: le site de Luxembourg ville nous avons dit c'est un site de
2 défense c'est un site d'éperon rocheux donc sur uh le haut
3 d'une uh d'une falaise mais quelle est la situation
4 maintenant de cette ville de Luxembourg la situation je
5 vous le rappelle contrairement au site est à voir au niveau
6 regional et non pas au niveau local **Laurent wann ech lo**
7 **nach eppes vun daer muss soen da geet et duer da**
8 **kriss du eng Strof** donc situation de la ville de
9 Luxembourg de ce que vous savez sur cette ville c'est
10 une ville de forteresse.

1 Teacher: the site of Luxembourg city we said was a defence site
2 the site is on a rock at the top of a cliff but what is the
3 situation of Luxembourg at the moment I'll remind
4 you in contrast to the site you have to look at it from a
5 regional perspective and not a local perspective
6 **Laurent if I need to say one more thing to you that's**
7 **enough you will get punished** so the situation of the city
8 of Luxembourg from what you know about the city it's a
9 fortress.

Extract 5.23: Teacher-initiated code-switch simultaneously fulfilling an 'addressee specification' and a 'disciplining function. Regular font = French, bold font = Luxembourgish.

5.4 Quantitative analysis of teachers' multilingual behaviour

5.4.1 Coding teacher-initiated code-switching and transfer

The qualitative analysis and illustration of the functions fulfilled by teachers' use of multiple languages establishes language alternation as a useful communicative resource. However, this type of analysis is unable to reveal to what extent

teachers rely on language alternation to convey curriculum content, to manage classroom discourse and/or to build relationships with their students. The high degree of variability in different teachers' language behaviour (5.2) increases the need for a quantification of teacher-initiated code-switching and transfer. A quantitative analysis of the extent to which Luxembourgish features in the classroom and the purposes it is employed for can provide insights into the realities of the classroom.

Pragmatic functions of code-switching are typically researched from a qualitative approach as it can be argued that no two switches are necessarily identical in terms of their functions (Raschka *et al.*, 2000: 161). However, Ferguson (2009) draws attention to the usefulness and value of quantitative approaches to the study of classroom code-switching functions as long as the multifunctional nature of language alternation is taken into account. A quantified pragmatic analysis may not only contribute to the generalisability of the research findings but it can also provide an overall understanding of the multilingual strategies employed by teachers and students which can be directly applied to decisions concerning language in education. As language in education policies typically affect large numbers of students and teachers, policy makers display a preference for quantitative research findings that move beyond individual examples (Ferguson, 2009: 234). The connection between code-switching research findings and language planning and policy decisions will be discussed in further detail in section 7.2.2.

During the quantitative analysis of teacher's multilingual behaviour, the various functions outlined in section 5.3 were applied to the language production data originating from the 32 transcribed school lessons. To ensure consistency in coding, two independent passes through the data were conducted. Due to the highly multilingual nature of the data, the coding was not consistently checked by a second coder as extensive language skills (fluency in French, German and Luxembourgish) are required for the analysis of this corpus. However,

translations of several examples of the various functions as well as any ambiguous tokens were discussed with academic peers. In addition, issues regarding the multifunctionality of language alternation (5.3.6) were addressed. First of all, tokens fulfilling two functions simultaneously were coded for both functions. By adopting this approach, the multifunctionality of code-switching was acknowledged and the analyst was not required to make any subjective decisions involving the choice of one function over another for the coding of particular tokens.

Moreover, this thesis primarily aims to investigate to what extent teachers rely on code-switching for the transmission of curriculum content, for purposes of classroom management and as a tool for establishing rapport with students. As previously outlined (5.3.6), if code-switches fulfil two functions simultaneously, these functions are often closely related and can normally be collapsed under the same overarching category (i.e., ‘curriculum access’, ‘classroom discourse management’, ‘interpersonal relations’). The multifunctional nature of language alternation is, therefore, taken into account in the upcoming quantitative analysis.

5.4.2 Distribution of code-switching and transfer according to language

Classroom discourse in Luxembourg is officially regulated by strict medium of instruction policies based on a separation approach to bilingual education (Chapter 1). As previously outlined (5.2) individual teachers adapt to the changing language of instruction policies in various ways. While this research is primarily directed at revealing the extent to which Luxembourgish features in the classroom and for what purposes teachers employ the local language, it is nevertheless crucial to establish the proportion of teacher-initiated code-switching and transfer into the three languages (German, French, Luxembourgish) used in Luxembourg’s classrooms.

Figure 5.5 displays the extent to which low, middle and high tolerance teachers code-switch (as opposed to employing transfer) into Luxembourgish, French and German during the three fieldwork phases. The pattern of code-switching among the different types of teachers remains largely similar between phases B and C. Low and middle tolerance teachers initiate more code-switches into French than into Luxembourgish. This pattern is reversed for the high tolerance teacher who in both phases B and C code-switches into Luxembourgish more extensively than into French. Table 5.2 presents the extensive variation in the amount of code-switching displayed by the different types of teachers in the format of frequency counts. The high tolerance teacher on average initiates 146 code-switches per 50-minute lesson in phase B while an average of 30 tokens for middle tolerance teachers and 13 tokens for low tolerance teachers were recorded. The varying levels of teachers' tolerance towards classroom code-switching are reflected in the quantification of code-switching into the various languages. The clearest picture emerges in phases B and C where the high tolerance teacher's behaviour differs considerably from the middle and low tolerance teachers. During phase C the low tolerance teacher on average initiates 4.6 code-switches into Luxembourgish compared to 13.7 code-switches for the middle tolerance teacher and 64.7 code-switches for the high tolerance teacher. We can observe a steady increase in the amount of code-switching into Luxembourgish ranging from low to middle to high tolerance teachers. However, the gap between middle and high tolerance teachers is considerably wider than the gap between low and middle tolerance teachers.

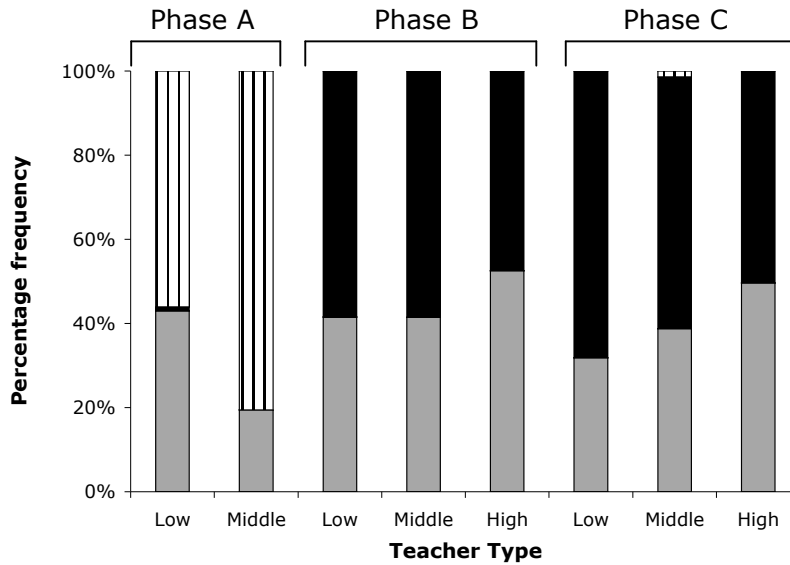


Figure 5.5: Distribution of code-switching into Luxembourgish, French and German in all phases for the different types of teachers. Black = CS into French, Grey = CS into Luxembourgish, Vertical stripes = CS into German.

	Phase A			Phase B			Phase C		
	Low	Middle	High	Low	Middle	High	Low	Middle	High
LUX	7.6	6.6	NA	5.5	8.5	77	4.6	13.7	64.7
FR	0.1	0	NA	7.7	12	69.5	10	21.2	65.7
GER	10	27.6	NA	0	0	0	0	0.5	0
Total	17.7	34.2	NA	13.2	20.5	146.5	14.6	35.4	130.4

Table 5.2: Average number of teacher-initiated code-switches per 50-minute lesson into Luxembourgish, French and German by low, middle and high tolerance teachers in all three phases. NA = not applicable.

The pattern emerging in phase A requires more extensive attention as an initial consideration of the findings appears counter-intuitive. The low tolerance teachers code-switch into Luxembourgish 42 percent of the time compared to the middle tolerance teacher who initiates only 20 percent of her code-switches into Luxembourgish. The previous classification of teachers according to different levels of tolerance towards Luxembourgish code-switching leads us to expect the opposite scenario where middle tolerance teachers would display a higher

proportion of code-switches into Luxembourgish and a lower proportion of code-switches into German than low tolerance teachers. The middle tolerance teacher's high proportion of German code-switches (80 percent), displayed in figure 5.5, could therefore be attributed to potential problems in the classification of teachers into different tolerance types (5.2). However, in phase A classroom interactions in the middle tolerance teacher's lessons are characterised by extensive inter-speaker code-switching where the students' use of Luxembourgish is frequently followed by teacher-initiated code-switches back into German, the official medium of instruction. While middle tolerance teachers rarely discipline students for speaking Luxembourgish, they nevertheless constantly code-switch back into German, the official medium of instruction.

The language distribution for code-switching outlined above is not reflected in the patterns emerging from the quantification of transfer according to language. The high tolerance teacher shows a higher proportion of French transfer than Luxembourgish transfer in both phases B and C (Figure 5.6). This pattern stands in contrast with the high tolerance teacher's higher proportion of Luxembourgish code-switches than French code-switches (Figure 5.5). The upcoming functional analysis of code-switching and transfer will provide a possible explanation for this findings (5.4.4). Both middle and low tolerance teachers display an overall decline in the amount of transfer between phases B and C (Table 5.3). While the middle tolerance teachers' use of German transfer decreases between phases B and C, we can observe an increase in Luxembourgish transfer throughout the same time period. The middle tolerance teachers' use of Luxembourgish code-switching also increases between phases B and C (Table 5.2).

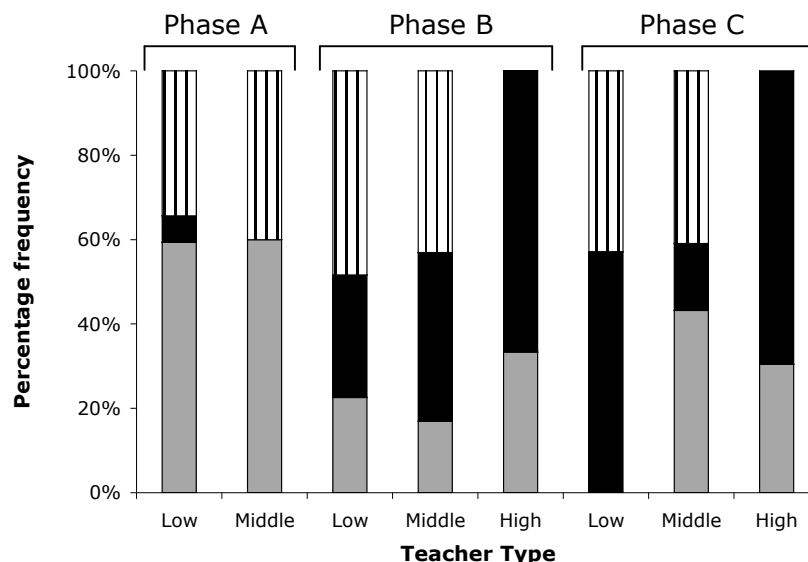


Figure 5.6: Distribution of transfer according to language in all phases for the different types of teachers. Black = transfer into French, Grey = transfer into Luxembourgish, Vertical stripes = transfer into German.

	Phase A			Phase B			Phase C		
	Low	Middle	High	Low	Middle	High	Low	Middle	High
LUX	6.3	1	NA	1.7	2.7	8.7	0	4.7	8.7
FR	0.6	0	NA	2.2	6.5	17.5	1.3	1.7	20
GER	3.6	0.6	NA	3.7	14	0	1	2.7	0
Total	10.5	1.6	NA	7.6	23.2	26.2	2.3	9.1	28.7

Table 5.3: Average number of transfer tokens per lesson into Luxembourgish, French and German by low, middle and high tolerance teachers in all three phases. NA = not applicable.

The quantification of code-switching and transfer according to language demonstrates that Luxembourgish frequently features in classroom discourse and that teachers do not fully adhere to the official medium of instruction policies. However, a full interpretation of the outlined patterns can only be gained through a quantitative analysis of the functions fulfilled by the teacher's code-switching and transfer tokens into Luxembourgish, French and German. The distribution of teacher-initiated code-switching and transfer across Luxembourgish, French and German leads to the following questions:

- Why do high tolerance teachers code-switch so much more than middle and low tolerance teachers?
- Can the discrepancies in behaviour between the different types of teachers be explained by their reasons for engaging in language alternation?
- Why do we find such a high proportion of French transfer in the high tolerance teacher’s speech?
- Why is there a simultaneous decrease in German transfer and increase in Luxembourgish transfer in the middle tolerance teacher’s speech?

The coding and analysis of code-switching and transfer according to the various functions that were illustrated in section 5.3 can help to provide answers to these questions and can bring us closer to an understanding of the workings of multilingual classrooms governed by monolingual language of instruction policies. The following sections present an in-depth analysis of the various functions fulfilled by Luxembourgish, French and German code-switching and transfer.

5.4.3 Functional analysis of teacher-initiated code-switching into Luxembourgish

Tokens of teacher-initiated code-switching into Luxembourgish were analysed by quantitatively applying the framework of broad and narrow functions of language alternation outlined in section 5.3. An overall understanding of the reasons underlying the teachers’ use of multiple languages in the same classroom can be gained by assigning individual Luxembourgish code-switches to ‘curriculum access’, ‘management of classroom discourse’ and ‘interpersonal relations’ functions. Figure 5.7 displays the broad functional analysis of low, middle and high tolerance teachers’ code-switching in all fieldwork phases. In phase A, both low and middle tolerance teachers primarily code-switch into Luxembourgish to manage classroom discourse. Only 9.7 percent of low tolerance and 11.5 percent of middle tolerance teachers’ code-switching fulfils a curriculum access function. 3.8 percent of the middle tolerance teacher’s code-switching fulfils an

‘interpersonal relations’ function; the low tolerance teacher, on the other hand, never code-switches into Luxembourgish for ‘interpersonal relations’ purposes. During phase A, the functional distribution of low and middle tolerance teachers’ code-switching differs only marginally.

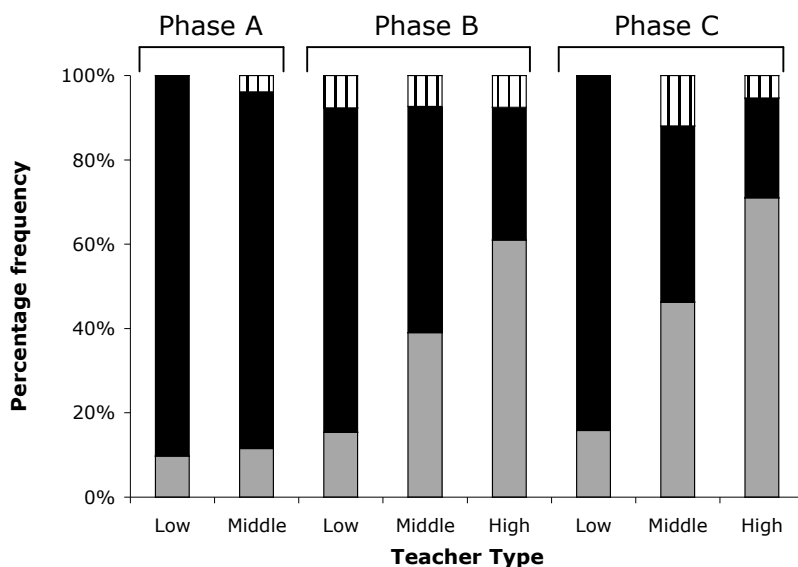


Figure 5.7: Broad functions of teacher-initiated code-switching into Luxembourgish in all phases for the different types of teachers. Black = CS for the management of classroom discourse, grey = CS for curriculum access, vertical stripes = CS for interpersonal relations.

During the beginning of French medium education (phase B) we can observe an increase in the proportion of code-switching for curriculum access among both low and middle tolerance teachers in relation to phase A (Figure 5.7). This increase is particularly noticeable among middle tolerance teachers as 39 percent of their code-switching now fulfils a curriculum access function as opposed to merely 11.5 percent in phase A. In phase B, low and middle tolerance teachers also code-switch into Luxembourgish proportionally more often than in phase A to fulfil an ‘interpersonal relations’ function, or in other words, to establish rapport with students. Code-switching fulfilling an interpersonal relations function increases by 7.6 percent and 3.5 percent for low and middle tolerance teachers respectively. While we can observe an increase in code-switching for

curriculum access and interpersonal relations among low and middle tolerance teachers between phases A and B, the majority of both types of teachers' code-switching continues to fulfil functions related to the management of classroom discourse during phase B. This pattern, however, does not apply to the high tolerance teacher who primarily code-switches to convey curriculum content in both phases B and C (Figure 5.7). In phase B, 61 percent of the high tolerance teacher's code-switching into Luxembourgish fulfils a curriculum access function in comparison to 31.5 percent of his code-switching fulfilling a classroom management and 7.5 percent fulfilling an interpersonal relations function.

In phase C, the functional distribution of the high tolerance teacher's code-switching changes slightly due to a 10 percent increase in the proportion of Luxembourgish code-switches fulfilling a curriculum access function. For middle tolerance teachers, the proportion of code-switching for the transmission of curriculum content also increases between phases B and C from 39 percent to 46.2 percent. This raise establishes 'curriculum access' as the primary function fulfilled by middle tolerance teachers' code-switching in phase C. While low and middle tolerance teachers primarily code-switch into Luxembourgish to manage classroom discourse in phase A, we find considerably more variation in the functions of Luxembourgish code-switching in phases B and C. In terms of frequency of occurrence, high tolerance teachers code-switch considerably more often than middle and low tolerance teachers (Table 5.2). This more extensive code-switching viewed in conjunction with the fact that the vast majority of the high tolerance teacher's code-switching fulfils a curriculum access function demonstrates that Luxembourgish plays a key role in the transmission of curriculum content for the high tolerance teacher.

A narrow functional analysis of teacher-initiated code-switching into Luxembourgish can bring us closer to an understanding of the role of Luxembourgish in classroom discourse. Figure 5.8 displays the narrow functional distribution of teachers-initiated code-switching into Luxembourgish across the

three data collection phases. During German medium education (phase A), low and middle tolerance teachers primarily code-switch into Luxembourgish to specify particular addressees and to give instructions (Figure 5.8.a). The narrow functional analysis of the small proportion of curriculum access code-switching, reveals that both low and middle tolerance teachers code-switch into Luxembourgish for clarification purposes only 4.1 percent and 3.8 percent of the time respectively. This pattern highlights that during German medium education Luxembourgish code-switching primarily constitutes a resource for managing classroom discourse but rarely contributes to the clarification and teaching of curriculum content.

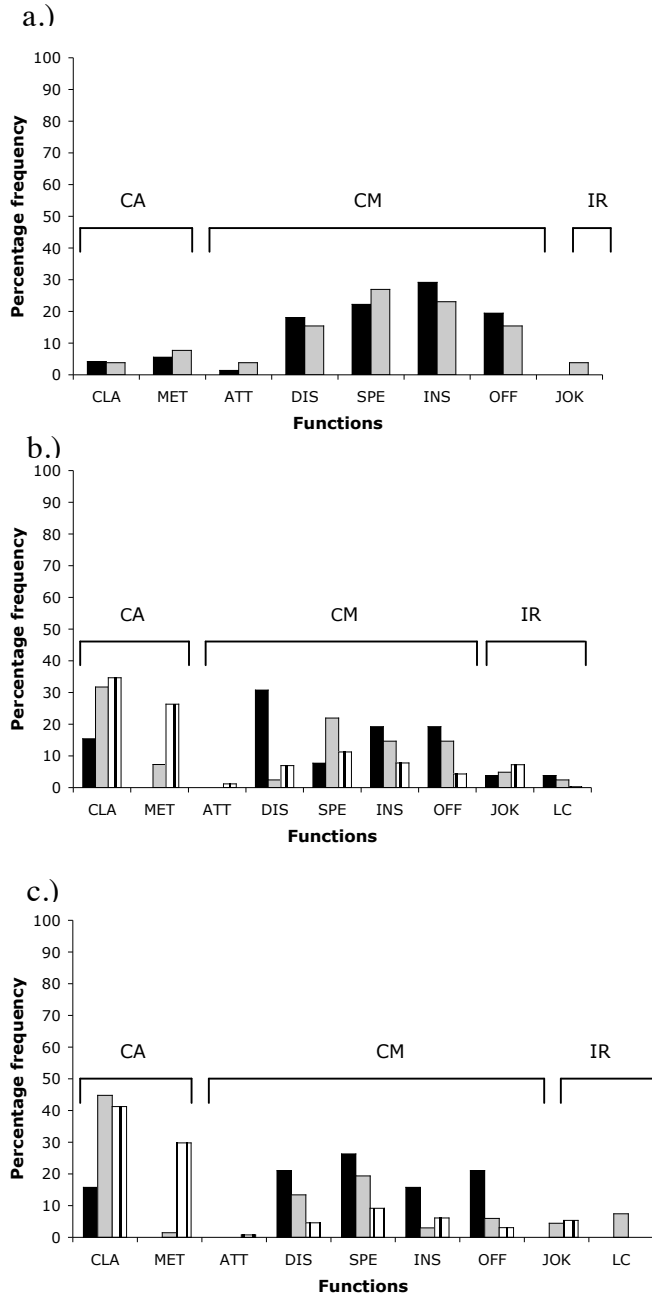


Figure 5.8: Narrow functions of teacher-initiated code-switching into Luxembourgish in all phases for the different types of teachers. a.) = phase A, b.) = phase B, c.) = phase C. Black = low tolerance teacher, grey = middle tolerance teacher, vertical stripes = high tolerance teacher. CA = curriculum access, CM = management of classroom discourse, IR = interpersonal relations. CLA = clarification, MET = metalinguistic, ATT = gaining attention, DIS = disciplining and praising, SPE = addressee specification, INS = instruction giving, OFF = 'off-lesson' concern, JOK = joking, LC = local community.

The proportion of Luxembourgish code-switches fulfilling a clarification function steadily increases throughout French medium education for middle tolerance teachers. The extremely low proportion of middle tolerance teachers' code-switches fulfilling a clarification function in phase A (3.8 percent) increases to 31.7 in phase B followed by a further increase to 44.7 percent in phase C. The most prominent increase in the middle tolerance teachers' proportion of clarification code-switching occurs between phases A and B or in other words, during the switch of the language of instruction from German to French. The proportion of the low tolerance teachers' code-switching for clarification purposes raises from 4.1 percent to 15.3 percent between phases A and B and remains stable across phases B and C. The functional distribution of the high tolerance teacher's Luxembourgish code-switching remains exceptionally stable across phases B and C. However, we can observe a slight increase in the proportion of clarification code-switching raising from 34.6 percent in phase B to 41.2 percent in phase C.

5.4.4. Functional analysis of teacher-initiated transfer into Luxembourgish

Luxembourgish transfer emerges as a rare phenomenon in teachers' discourse. All types of teachers on average display fewer than 10 instances of Luxembourgish transfer per 50-minute lesson. No tokens of Luxembourgish transfer were recorded for the low tolerance teacher in phase C (Table 5.3). The functional analysis of Luxembourgish transfer is, therefore, based on a limited number of tokens.

The functional distribution of teacher-initiated code-switching into Luxembourgish (5.4.3) is not fully mirrored in the findings of the functional analysis of transfer. During German medium education (phase A), we can observe close similarity between the functional distribution of code-switching and transfer. As in the case of code-switching, the vast majority of low and middle tolerance teachers' transfer fulfils a 'classroom discourse management' function

during phase A (Figure 5.9). However, this functional distribution of code-switching is reversed for transfer during phase B. While the low and middle tolerance teachers primarily code-switch in order to manage classroom discourse (Figure 5.7), their Luxembourgish transfer largely fulfils a curriculum access function (Figure 5.9). The opposite functional reversal applies to the high tolerance teacher who extensively code-switches for curriculum access (Figure 5.7) but mainly employs Luxembourgish transfer for the management of classroom discourse (Figure 5.9).

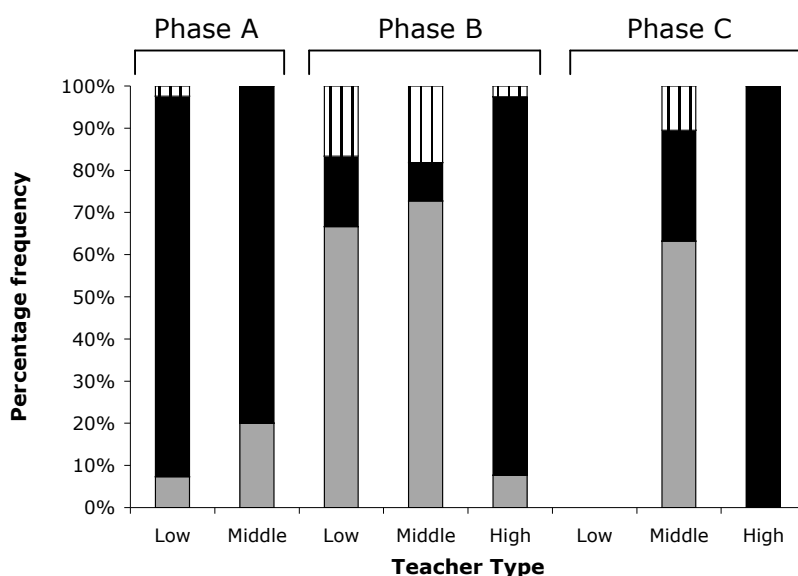


Figure 5.9: Broad functions of teacher-initiated transfer into Luxembourgish in all phases for the different types of teachers. Black = transfer for the management of classroom discourse, grey = transfer for curriculum access, vertical stripes = transfer for interpersonal relations.

The narrow functional analysis (Figure 5.10) provides detailed insights into the teachers' strategic use of transfer. As in the case of code-switching into Luxembourgish (Figure 5.8), both middle and low tolerance teachers rarely employ transfer for clarification purposes during German medium education (phase A). In fact, low tolerance teachers transfer into Luxembourgish almost exclusively when praising or disciplining pupils (Figure 5.10.a). This pattern can

be related to Ferguson's (2003:42) argument that the language of the community (Luxembourgish) is often the preferred medium for 'moral discourse' in classrooms (5.3.3). However, after the switch of the language of instruction from German to French in phase B, both low and middle tolerance teachers primarily transfer into Luxembourgish for clarification purposes. The predominance of transfer for the clarification of curriculum content still applies to middle tolerance teachers during phase C. However, no instances of Luxembourgish transfer were recorded for the low tolerance teacher in phase C.

The high tolerance teacher primarily transfers into Luxembourgish to gain the students' attention in both phases B and C. The longitudinal and observational nature of the data collection has enabled the analyst to associate this extensive use of Luxembourgish transfer with discourse marker switching. In fact, the high tolerance teacher frequently employs Luxembourgish discourse markers in conjunction with other paralinguistic cues such as raised voice or gaze when attempting to gain attention (e.g. extract 5.15).

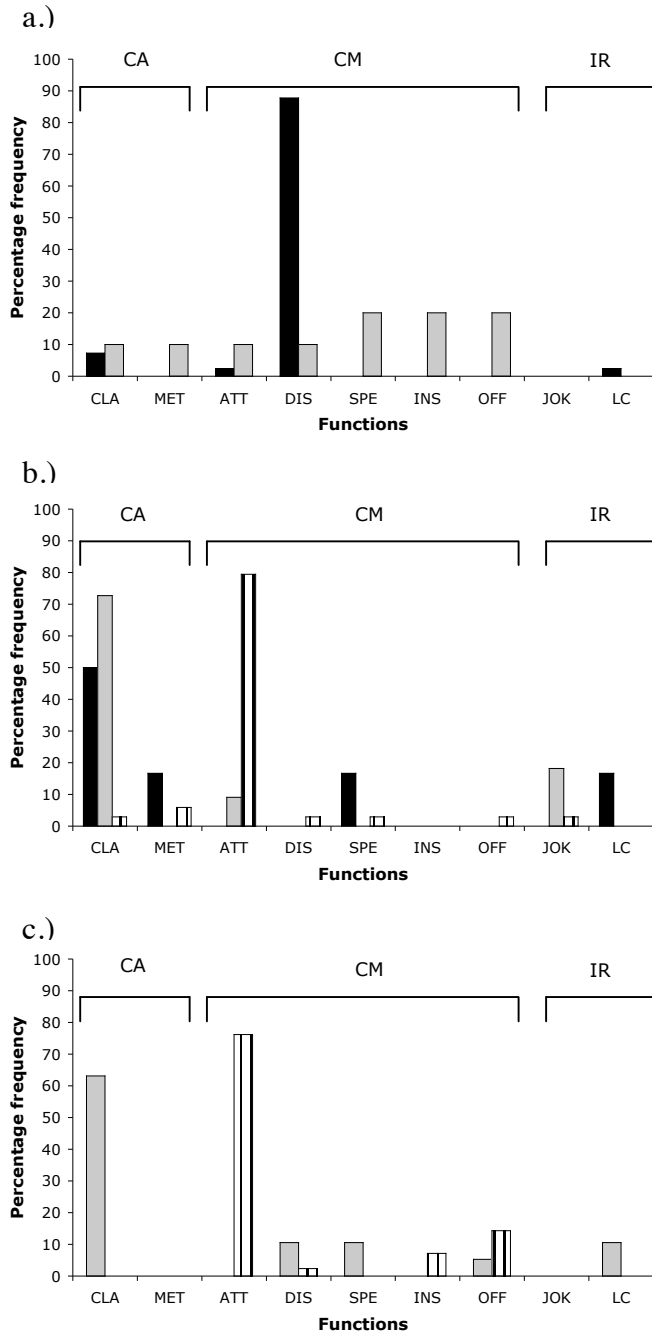


Figure 5.10: Narrow functions of teacher-initiated transfer into Luxembourgish in all phases for the different types of teachers. a.) = phase A, b.) = phase B, c.) = phase C. Black = low tolerance teacher, grey = middle tolerance teacher, vertical stripes = high tolerance teacher. . CA = curriculum access, CM = management of classroom discourse, IR = interpersonal relations. CLA = clarification, MET = metalinguistic, ATT = gaining attention, DIS = disciplining and praising, SPE = addressee specification, INS = instruction giving, OFF = 'off-lesson' concern, JOK = joking, LC = local community.

5.4.5 Functional distribution of code-switching and transfer into German and French, the official media of instruction

While the primary interest of this thesis lies in the investigation of Luxembourgish transfer and code-switching, an analysis of the use of French and German, the official media of instruction, can provide further insights into the workings of multilingual classrooms. During the qualitative analysis of language alternation (5.3.5) two functions of teacher-initiated code-switching and transfer into the official medium of instruction (German or French depending on fieldwork phase) were identified: ‘back to default’ and ‘written text or terminology’ (see 5.3.5 for examples). This analysis applies to code-switching and transfer into German during phase A and French during phases B and C. The use of German during the latter two phases will be presented in a separate analysis as German does not constitute an official medium of instruction during these phases. Details regarding the frequencies of occurrence and proportional distributions of code-switching and transfer into German and French in comparison to Luxembourgish can be found in section 5.4.2.

Across all phases, teachers categorically employ transfer into the official medium of instruction (German in Phase A and French in phases B and C) in order to refer to the written text or when using specific terminology related to their subject matter. The ‘back to default’ function does not apply to instances of transfer as this type of language alternation consists of single word switches or switches of predetermined phrases and, therefore, cannot result in a prolonged change of the language of interaction (see 5.3.1 for further details). During phases B and C, we can observe a general decline in the amount of French transfer ranging from high to middle to low tolerance teachers (Table 5.3). As was illustrated in section 5.2.2, the higher the teachers’ level of tolerance towards the use of multiple languages in the same classroom, the more extensively they use Luxembourgish in classroom discourse. This pattern can provide an explanation for the fact that we find the highest number of French transfer tokens in the high tolerance teacher’s speech

and the lowest number of French transfer tokens in the low tolerance teacher's speech (Table 5.3). As the high tolerance teacher uses Luxembourgish more extensively when communicating with students and particularly when clarifying curriculum content, he is more frequently forced to refer to the written text in French or use French terminology when discussing subject matter. The high tolerance teacher strategically employs French transfer when combining the spoken and written media in the classroom. For example, stretches of speech that have been code-switched into Luxembourgish when clarifying subject matter are often filled with instances of French transfer occurring when the teacher refers to the written text or discusses specific aspects of subject matter lacking Luxembourgish labels (e.g. Extract 5.22).

The majority of teachers' code-switching into the official media of instruction fulfil a 'back to default' function (Figure 5.11). As previously discussed (5.3.5), teachers' code-switches into Luxembourgish fulfilling various functions such as disciplining or clarifying curriculum content are frequently followed by code-switches back into the official medium of instruction. This type of behaviour can be related to the stringent medium of instruction policies governing classroom discourse. During phases B and C, the high tolerance teacher demonstrates an increased proportion of French code-switches (as opposed to transfer) fulfilling a 'written text and terminology' function in comparison to middle and low tolerance teachers. For instance, only 3.2 percent of low tolerance teachers' code-switches into French co-occur with the use of specific terminology or a mention of the written text in phase B. This figure rises to 27 percent for high tolerance teachers. This pattern suggests that referring to the written text or using subject matter related terminology is most likely to trigger a code-switch (i.e. a change of language for the subsequent interaction) as opposed to transfer in high tolerance teachers.

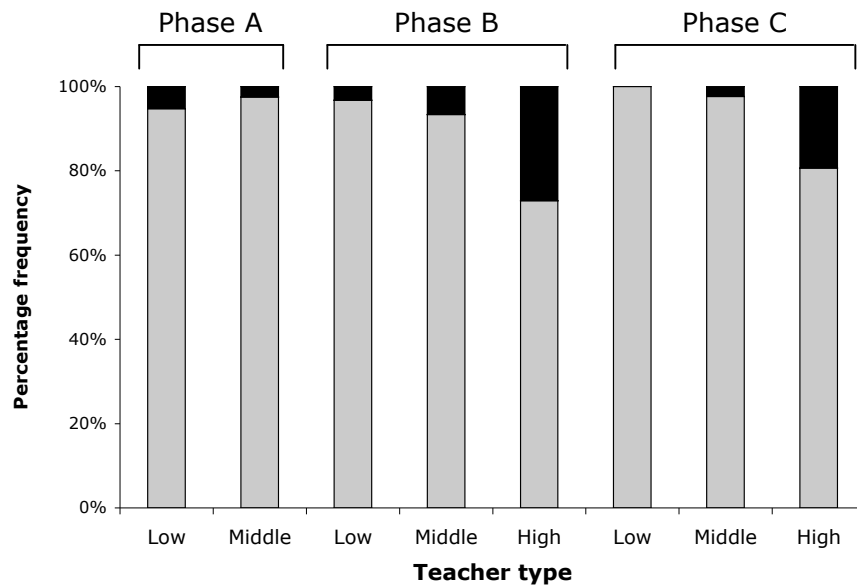


Figure 5.11: Functional distribution of teacher-initiated code-switching into the official medium of instruction (German in phase A, French in phases B and C) for all types of teachers. Black = ‘written text and terminology’ function, Grey = ‘back to default’ function.

During French medium education (phases B and C), low and middle tolerance teachers primarily employ Luxembourgish transfer in order to clarify curriculum content (Figure 5.9). A similar pattern emerges for German transfer in phases B and C. No instances of German transfer were recorded for the high tolerance teacher. Low and middle tolerance teachers categorically transfer into German for clarification purposes. In fact, German transfer entirely consists of providing German translations of French terminology. Figure 5.12 draws attention to a decline in the amount of German transfer for clarification purposes for both low and middle tolerance teachers between phases B and C. This decline is particularly salient in the case of middle tolerance teachers. We can observe an almost complete lack of German code-switching among all teachers throughout French medium education (phases B and C).

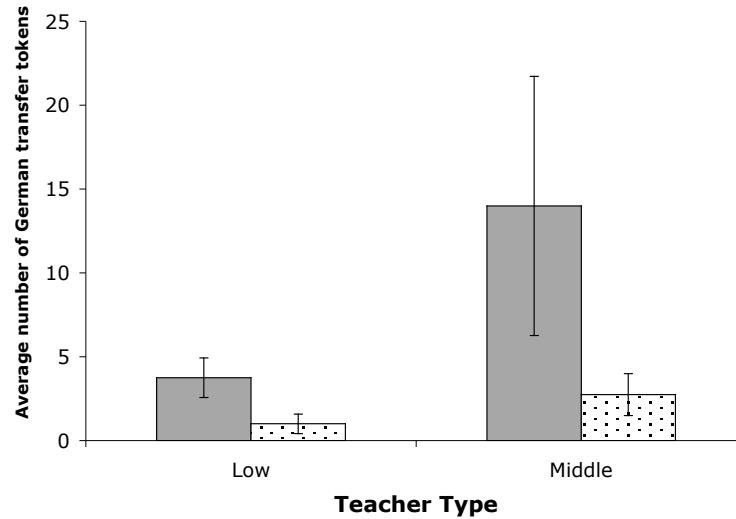


Figure 5.12: Average amount of German transfer for clarification purposes for low and middle tolerance teachers in phases B and C. Grey = phase B, dotted = phase C. Error bars = standard error.

The middle tolerance teachers’ reduced use of German transfer for clarification purposes in phase C can be related to an increase in their Luxembourgish code-switching fulfilling a ‘clarification function’. First of all, their average number of Luxembourgish code-switches per 50-minute lesson increases from 8.5 to 13.7 between phases B and C (Table 5.2). The raised frequency of occurrence is accompanied by a proportional increase in the amount of Luxembourgish code-switching for clarification purposes throughout the last two phases. In phase B, 31.7 percent of middle tolerance teacher’s Luxembourgish code-switching fulfils a ‘clarification’ function compared with 44.7 percent during phase C. This pattern indicates a change of behaviour in the middle tolerance teachers who in phase B frequently provide German translations for French terminology but rely more extensively on Luxembourgish for the clarification of subject matter in phase C. German, therefore, progressively loses its role in the middle tolerance teachers’ classrooms.

5.5 Summary and discussion

The high degree of variability found in teachers' language behaviour demonstrates that the stringent medium of instruction policies are not consistently put into practice in everyday classroom interactions. All teachers regularly use Luxembourgish in classroom interactions, indicating that the official ban of Luxembourgish from secondary school classrooms has not been fully implemented. The longitudinal aspect of the data analysis enables us to gain insights into the negative impact of the change of the language of instruction from German to French on daily classroom activities. First of all, the absence of extensive teacher-initiated language alternation (particularly code-switching and transfer for curriculum access) during German medium education (phase A) suggests that students are able to comfortably participate in learning activities carried out in German. During the initial weeks of French medium education (phase B) we can observe a clear increase in Luxembourgish code-switching and transfer fulfilling clarification and metalinguistic functions. This increase draws attention to the students' potential difficulties with the introduction of French as a language of instruction. The strongest increase appears among middle tolerance teachers. Their number of language alternation tokens into Luxembourgish further increases between phases B and C. The proportion of their Luxembourgish code-switching and transfer fulfilling a curriculum access function increases simultaneously. This continuing increase in Luxembourgish code-switching and transfer for clarification and metalinguistic functions among middle tolerance teachers suggests that students fail to adapt quickly to the introduction of French as a medium of instruction.

During the initial weeks of French medium education, both low and middle tolerance teachers rely heavily on German transfer for the clarification of curriculum content. This strategic use of German considerably declines between phases B and C illustrating the gradual phasing out of German during the first year of French medium education. This decline in the teachers' use of German

does not necessarily reflect the students' successful adaptation to the use of French as a medium of instruction as we are simultaneously confronted with an increase in Luxembourgish code-switching and transfer. Luxembourgish, therefore, seems to replace German in its role as a resource for the clarification of difficult subject matter the more time elapses since the official switch of the language of instruction.

The analysis of teacher-initiated language alternation presented in this chapter has drawn attention to the crucial role of Luxembourgish in the transmission of curriculum content, particularly for high and middle tolerance teachers. However, all teaching and learning materials used in Luxembourg's schools are written in either French or German. The investigation of code-switching and transfer back into the official media of instruction provides us with a closer understanding of the various strategies employed by teachers when discussing in Luxembourgish curriculum content that is printed in textbooks or written on the blackboard in French or German. The analysis focusing on instances of French transfer fulfilling a 'written text or terminology' function demonstrates how teachers simply embed French lexical items or expressions in their Luxembourgish when they are faced with a need to refer to the written text or a lack of subject matter-related terminology. High tolerance teachers are more likely to code-switch back into French, as opposed to employing French transfer, when they are faced with a need to refer to the written text or by a lack of Luxembourgish terminology than middle and low tolerance teachers. This pattern suggests a high degree of flexibility in the high tolerance teacher's language behaviour which is also supported by the high frequency of code-switching and transfer tokens. Consequently, language alternation emerges as an inherent part of this type of teacher's teaching methodology. The impact of the teachers' level of tolerance towards classroom code-switching on students' level of participation in learning activities and their educational attainment will be discussed in Chapter 6 (6.3).

In addition to contributing to the success of curriculum content transmission, code-switching into Luxembourgish aids teachers in the management of classroom discourse and in successfully building relationships with their students. By telling jokes or praising students in Luxembourgish teachers reduce the high level of formality governing the classroom situation. Luxembourgish is largely spoken by students outside the classroom (6.2.1) and teachers exploit its connotations of informality when establishing rapport with students. The use of French and/or German in Luxembourg's classrooms is not a natural development but must be viewed as an imposition from the outside. The analysis of students' language use inside and outside the educational context will provide further evidence for this claim (Chapter 6). Education has largely been described as a crucial domain for language planning and policy activities (Ferguson, 2006; Spolsky, 2004; Skutnabb-Kangas, 2000) and the analysis of teachers' multilingual behaviour in Luxembourg demonstrates the complex nature of language acquisition planning (2.5.7). While some teachers closely adhere to the official language of instruction policies, others deviate substantially from official guidelines through their use of Luxembourgish. An analysis of students' language behaviour can throw further light onto the reasons for the lack of adherence to official language of instruction policies displayed by some teachers. The vast differences in teachers' language behaviour and the substantial use of Luxembourgish, particularly by the high tolerance teacher, must be related to the students' educational attainment and their degree of participation during lessons taught by teachers displaying different levels of tolerance towards classroom code-switching. The teachers' differing levels of tolerance towards classroom code-switching (extensively discussed in this chapter) will be related to students' language behaviour in the following chapter.

6 Multilingual language behaviour among students

6.1 Introduction

This chapter reports findings from the longitudinal ethnographic study of students' language attitudes and language behaviour. The data originate from audio-recordings of extensive classroom observations collected during three separate fieldwork phases spanning the switch of the language of instruction from German to French (see Chapter 3 for further details). The analysis focuses on the connection between students' language attitudes and their language behaviour and encompasses both qualitative and quantitative methods. The Luxembourg Ministry of Education proudly emphasises the multilingual nature of the country's education system and argues that multilingualism must be regarded as the 'hidden native language of many Luxembourgish' as neither French nor German nor even Luxembourgish represent the native language for many Luxembourgish residents (Berg & Weis, Ministry of Education, 2005: 33). This claim will be challenged through an analysis of the role of socio-psychological factors in the production of language centring around the following research questions:

- To what extent are students multilingual? Which languages do they speak inside the classroom? Which languages do they speak at home and with friends and/or peers?
- Does the students' language behaviour change depending on their teachers' level of tolerance towards classroom code-switching?
- Is the students' code choice influenced by their attitudes towards the change of the language of instruction from German to French?
- Is the students' degree of participation in classroom activities affected by their teachers' level of tolerance towards classroom code-switching?
- Does the switch of the language of instruction from German to French have an impact on students' educational achievements?
- What functions does student-initiated code-switching and transfer fulfil?

- Do students successfully adapt to the current language in education policies?

First of all, students' self-reported language use and language preferences will be presented in order to establish a linguistic profile of the target population for the ethnographic study. Students' attitudes towards the use of French as a language of instruction and their self-assessed French language competences will be taken into account during the analyses of their self-reported and observed language behaviour during classroom interactions. The correlation of attitudinal data with language production data will enable us to gain further insights into the connection between language attitudes and language behaviour. Furthermore, the influence of the teachers' level of tolerance towards code-switching on students' language choice as well as their degree of participation in classroom activities will be investigated. The results of the various analyses will contribute to gaining a more comprehensive understanding of the consequences of the switch of language of instruction from German to French. However, all the findings reported in this chapter are based on data collected from a limited sample of informants (21 students). Finally, a detailed case study of the language alternation practices of four students displaying both different attitudes towards the use of French as a language of instruction and different levels of French language competence will provide an overview of some of the functions underlying student-initiated code-switching and transfer. The correlation of attitudinal and perceived language competence data with naturally-occurring language production data will be further complemented with experimental data originating from a multilingual map task (see 3.6.3 for methodological details). The analysis of the experimental data will allow for insights to be gained into the ways in which students employ different multilingual strategies (i.e. code-switching and transfer) in an experimental setting which can be directly compared to the classroom context. The various findings presented throughout this chapter will illustrate the ways in which students adapt to changing language in education policies and will draw

attention to the fact that the realities of the classroom do not necessarily reflect the official language in education policies.

6.2 Students' language use

6.2.1 Students' self-reported language behaviour

At the start of the ethnographic fieldwork the selected group of students completed the 'language use and language attitude' questionnaire initially devised for the large-scale study of language attitudes across different secondary schools in Luxembourg (Chapter 4). The responses of the 21 students participating in the ethnographic study are used to establish a linguistic profile in terms of their self-reported language use inside and outside of the educational context as well as their language preferences. This linguistic profile enables us to gain an overall impression of the spread of multilingualism among the target population before the findings of the students' patterns of code choice and code-switching are presented (6.2.2 and 6.6).

In an attempt to reveal to what extent students are multilingual, they were first of all required to list all the languages they are able to speak. Their responses were not constrained by a pre-established list of languages from which they had to choose but students were given the freedom to include any languages that they deemed part of their linguistic repertoire. The following languages were listed: Luxembourgish, French, German, English, Latin, Italian, Serbian, Macedonian, Russian. No students mentioned fewer than 3 languages, suggesting a high degree of multilingualism. The majority of students claimed to be able to speak 5 languages (62 percent) and as many as 19 percent included 6 languages in their linguistic repertoire. 5 percent of students listed 4 languages while the remaining 14 percent considered themselves trilingual. These figures establish the students sampled for this ethnographic study as highly multilingual individuals.

However, the highly multilingual nature of the student sample must be interpreted with caution, as not all students regularly use multiple languages outside the classroom. In fact, 70 percent of these students speak only Luxembourgish at home (Figure 6.1). The official languages of instruction, French and German, function as home languages for just 10 percent of students. A further 10 percent of the sample use Luxembourgish in combination with another language which exclusively consists of the heritage language of the given student's parents (e.g. Russian or Macedonian). The remaining 10 percent of students employ their heritage language (e.g. Macedonian, Serbian) as the sole language of communication in the home. A sub-sample including only ethnically Luxembourgish students whose parents are Luxembourgish nationals was created in order to highlight the exceptionally monolingual nature of the ethnically Luxembourgish students' homes. In fact, Luxembourgish categorically features as the sole language of the home for ethnically Luxembourgish students. The quantification of language use in the home reveals the influence of the students' ethnic background on their language use as the 30 percent of students who speak a language other than Luxembourgish at home are either first generation immigrants or have parents/one parent who do(es) not speak Luxembourgish.

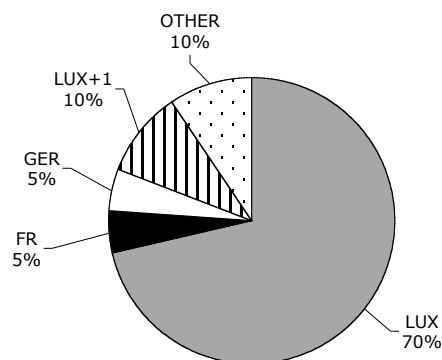


Figure 6.1: Self-reported language use at home by students.

The 'language use and attitude' questionnaire also investigated students' use of languages with their friends and peers and the quantification of their responses

reveals that Luxembourgish constitutes the sole medium of communication with friends and/or peers for 85 percent of the students (Figure 6.2). The remaining 15 percent of students employ Luxembourgish in conjunction with other languages when interacting with friends and/or peers. This pattern demonstrates that all students employ Luxembourgish to some extent in friendship groups. Moreover, students' ethnicity has a weaker effect on their language use as 85 percent of students from immigrant backgrounds still employ only Luxembourgish when interacting with friends.

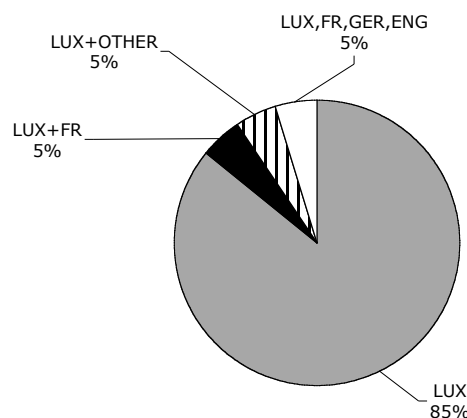


Figure 6.2: Students' self-reported language use with friends and peers.

During the data collection, students were offered a choice of language for the completion the questionnaire (3.4.2). In addition to reducing the risk of introducing a bias into the data, this approach enables us to gain insights into students' language preferences. 57 percent of students opted for a Luxembourgish questionnaire compared to 38 percent and 5 percent of students who completed German and French questionnaires respectively. The popularity of Luxembourgish for the completion of the questionnaire is a surprising finding in many ways. Firstly, the questionnaires were completed inside the classroom, an environment where the use of Luxembourgish is officially discouraged. In addition, Luxembourgish is rarely employed in a written form in Luxembourg's schools and the students report extensive difficulties with the learning and use of

the Luxembourgish orthography. Students were asked to express the level of difficulty they experienced when learning to write French, German and Luxembourgish on a magnitude continuum anchored with the labels ‘easy’ and ‘difficult’ on opposite ends of the continuum. Figure 6.3 demonstrates that the acquisition of the Luxembourgish orthography poses considerable difficulties for students. Learning to write French and especially German, on the other hand, emerges as a much easier task for students. The presence of these factors which technically discourage the use of Luxembourgish for a written task in a classroom context add significance to the fact that the majority of students opted for a Luxembourgish questionnaire during the data collection.

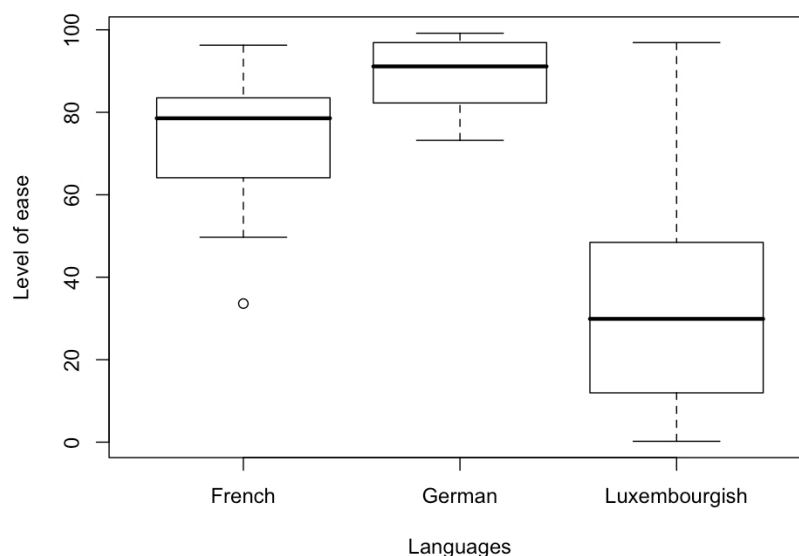


Figure 6.3: Students’ self-reported level of ease when learning to write French, German and Luxembourgish. 100 = ‘easy’, 0 = ‘difficult’. Horizontal line = median; box = middle 50 percent of data; whiskers = 1.5 times the interquartile range.

An investigation of language of instruction preferences reveals that the majority of students express a desire to be taught in Luxembourgish (47 percent) (Figure 6.4). The second preferred medium of instruction option consists of a combination of Luxembourgish and German (23 percent). Interestingly, the dual use of German and French, imposed by the current medium of instruction policies, is not

mentioned by any students. Similarly, French as a sole medium of instruction is not listed in students' responses. While Luxembourgish and German, either as single languages of instruction or in combination with each other, constitute the preferred media of instruction, we can nevertheless observe positive attitudes towards multiple languages of instruction such as various combinations of English, German, French and Luxembourgish. Interestingly, all students who express a desire to be taught in multiple languages of instruction include Luxembourgish.

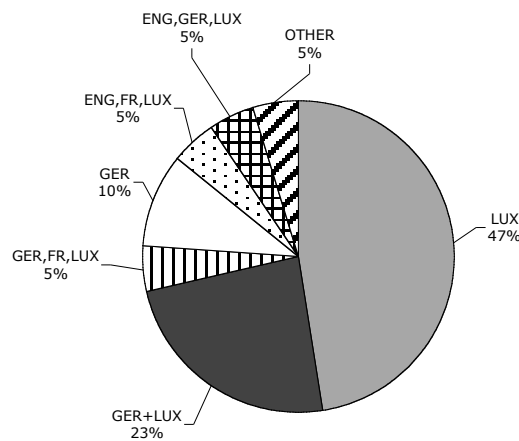


Figure 6.4: Students' language of instruction preferences.

To sum up, the quantification of students' language use outside the classroom (i.e. at home or with friends) reveals that Luxembourgish plays a dominant role in students' everyday lives. The positive attitudes towards the use of Luxembourgish as a language of instruction and the students' substantial use of Luxembourgish for the completion of the written questionnaire during the data collection for this study draw attention to the increasing importance of Luxembourgish in more formal domains. The overwhelming presence of Luxembourgish in the students' home and its frequent use as the sole language of communication between friends supports the argument that the highly multilingual appearance of the Luxembourg's student population must be viewed with caution. While all students included in the sample for this study are able to

speak multiple languages, their everyday language use outside the classroom is frequently characterised by the sole use of Luxembourgish. The data obtained through the ‘language attitude and language use’ questionnaire has also drawn attention to the students’ minimal use of French outside the classroom. In addition, French only constitutes the preferred medium of instruction for a minority of students (10 percent) who express a desire to be taught in a combination of French with other languages (i.e. English and Luxembourgish or German and Luxembourgish). Overall, students display a clear preference for a Germanic medium of instruction.

The analysis of teachers’ language behaviour has shown that Luxembourgish plays an important role in the transmission of curriculum content, the management of classroom discourse and the teachers’ attempt to establish rapport with their students (Chapter 5). In light of these findings as well as the students’ frequently monolingual Luxembourgish behaviour outside the educational context, the role and significance of Luxembourgish in students’ classroom discourse must be investigated. The extensive desire for the inclusion of Luxembourgish as a medium of instruction as well as the clear language preferences expressed through the students’ choice of language for the completion of the questionnaire contribute to the need to gain a fuller understanding of the ways in which students employ Luxembourgish in a context from which it is officially banned.

During the completion of the questionnaire students were asked to indicate how frequently they speak Luxembourgish in classroom interactions. These data were collected through the use of a magnitude continuum anchored by the labels ‘always’ and ‘never’ on opposite ends of the scale. On average students claim to use Luxembourgish in 58 percent of classroom interactions despite the stringent medium of instruction policies prescribing the sole use of either German or French. The analysis of the role of students’ attitudes towards the switch of the

language of instruction on their actual language behaviour in classroom interactions is based on a categorisation of students into four separate types:

- Positive attitude towards the change of the language of instruction from German to French and high self-assessed competence in spoken French (PosA/HighC)
- Positive attitude towards the change of the language of instruction from German to French and low self-assessed competence in spoken French (PosA/LowC)
- Negative attitude towards the change of the language of instruction from German to French and high self-assessed competence in spoken French (NegA/HighC)
- Negative attitude towards the change of the language of instruction from German to French and low self-assessed competence in spoken French (NegA/LowC)

Further details regarding the methodology and the rationale behind this classification of students can be found in section 3.6.4. Figure 6.5 displays the patterns of language use for the various types of students and reveals the connection between students' self-assessed competence in spoken French and their use of Luxembourgish. Students who display a low competence in spoken French report a more frequent use of Luxembourgish in classroom interactions than their peers who regard their French language competence as high. The students' attitude towards the introduction of French as a language of instruction seems to have little effect on their self-reported code choice.

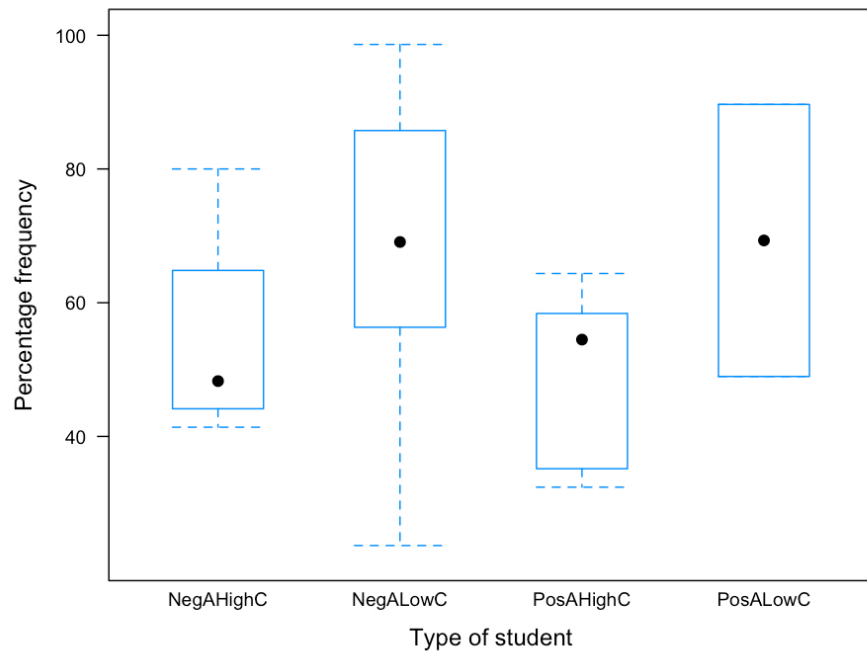


Figure 6.5: Self-reported use of Luxembourgish by different types of students. Neg = negative, Pos = positive, A = attitude towards the change of the language of instruction from German to French, C = self-assessed competence in spoken French.

The magnitude continuum scores regarding the extent to which students employ Luxembourgish in classroom interactions can provide insights into the students' perceptions of their own language use. However, the self-reported nature of these data and their ensuing limitations must be addressed during the interpretation of these patterns. While self-reports constitute a fast and efficient way of collecting data, they are affected by a number of shortcomings. Self-reports rely on the informants' ability to reflect on and express their own language use. In addition to the assumption that speakers are able to accurately report on their language behaviour, researchers are faced with the possibility that speakers over- or under-report on their use of a prestigious language (Milroy & Gordon, 2003: 211). Given these shortcomings and the fact that classroom discourse is frequently led and influenced by the teachers' own behaviour and attitudes, students' language behaviour must be analysed in context. Section 6.2.2 presents the findings of an analysis of students' language choice based on behavioural data.

6.2.2 Students' language choice inside the classroom

Students' speech was coded for language by assigning a language tag to individual words in accordance with the LIDES Coding Manual for multilingual corpora. Further details regarding the transcription and coding of the language production data can be found in section 3.6.4. Automated frequency counts were carried out in order to quantitatively establish the extent to which students employ Luxembourgish during classroom interactions and how often they deviate from the official medium of instruction policies. Due to the students' lack of support for French as a language of instruction (Figure 6.4), this chapter primarily focuses on students' language behaviour during French medium education. Figure 6.6 demonstrates that students extensively use Luxembourgish during French medium education as 48 percent of students' speech is uttered in Luxembourgish in phase B compared to 51 percent in phase C. As previously explained (2.4.5), no major problems were encountered during the coding of individual words according to language as French and Luxembourgish are linguistically fairly distant. For the purposes of the upcoming analysis, borrowings from French were coded as Luxembourgish words and the very limited number of tokens coded as 'undecided' were excluded from the quantified analysis of students' language choice.

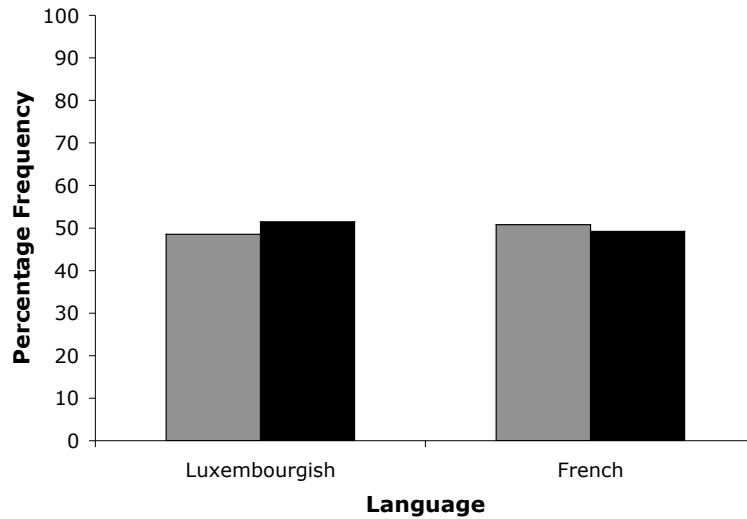


Figure 6.6: Students' language use in classroom interactions during phases B and C.
 Grey = phase B, black = phase C.

The considerable extent to which students employ Luxembourgish during classroom interactions is surprising when considering the stringent language of instruction policies governing Luxembourg's education system. The question emerges whether students deviate from the official medium of instruction and speak Luxembourgish due to insufficient competence in French or whether their language behaviour is influenced by other factors such as language attitudes and/or their teachers' attitudes and behaviour. In the following analyses, students' language production is correlated with their language attitudes as well as their self-assessed French language competence in an attempt to throw light onto the reasons underlying the substantial use of Luxembourgish in classroom discourse. Extensive efforts were made to control as many variables as possible that could have an effect on students' language behaviour. However, due to the ethnographic nature of this study various important factors such as a student's like or dislike of a particular teacher, their mood and level of tiredness as well as other non-identifiable personal factors could not be taken into consideration during the analysis.

The statistical analysis aims to reveal to what extent students with differing language competences and language attitudes employ French and Luxembourgish during school lessons taught by different types of teachers (i.e. high, middle and low tolerance teachers). A generalised linear model (GLM) with a quasibinomial distribution was used to identify which independent variables constrain the number of words spoken by students in either French or Luxembourgish (dependent variable). The analysis employs a dual dependent variable consisting of the number of words spoken in French and the number of words spoken in Luxembourgish by each student across all transcribed lessons from phases B and C (i.e. a binomial dependent variable that simultaneously includes the number of words spoken in French and Luxembourgish in any one lesson). The independent variables consist of the students' self-reported French language competence (magnitude continuum score), their attitudes towards the introduction of French as a language of instruction (magnitude continuum score) and the different teacher types (high, middle and low tolerance towards classroom code-switching). Students' attitude and competence scores are employed as continuous independent variables in the GLM. In other words, students are not categorised into four separate types as each student's attitude and competence scores are introduced as independent variables into the model in order to reveal whether, on average, attitudes and language competence have an impact on students' language choice. The type of teacher is included as a categorical factor with three levels (low, middle and high tolerance towards classroom code-switching).

The choice of a binomial dependent variable was motivated by various characteristics of the data and the context in which the data were collected. First of all, Luxembourgish and French are inversely related during classroom interactions. In fact, if a student is involved in an interaction and does not speak French in a given turn, he or she typically speaks Luxembourgish. Simply analysing the number of French words would have failed to address the realities of the classroom as zero values for a given student could reflect either no speech at all or simply no use of French (but use of Luxembourgish instead). Moreover,

the extent to which each student participates in classroom activities considerably varies between different lessons. While some students extensively interact in a given lesson, they do not speak at all in a similar lesson two weeks later. Students who did not speak at all in a given lesson (i.e. zero words uttered in French and Luxembourgish) were removed from the dataset for that particular lesson. This step was necessary for the use of parametric statistics (i.e. GLM), as a high number of zero values considerably skews the data. As the aim of this analysis is to explain students' language choice, removing these observations did not affect the results of the analysis.

The results of the model (Table 6.1) demonstrate that during phase B students' language production is significantly influenced by three different parameters (teacher type, competence and attitude). As is shown through the estimated regression parameter (estimate) (Table 6.1), students' language choice is most strongly affected by the teachers' level of tolerance towards classroom code-switching followed by their self-assessed French language competence and their attitudes towards French as a language of instruction. An abstracted two-dimensional representation of the output of the statistical model has been provided (Figure 6.7). Students employ French most extensively in the presence of low tolerance teachers followed by middle and high tolerance teachers. This is shown through the significant difference between the intercept of the three levels of the teacher type factor (Table 6.1). As the number of Luxembourgish words spoken is the inverse of the number of French words spoken, the inverse pattern exists between the number of Luxembourgish words spoken and teacher type.

	Estimate	Standard error	P value
Intercept	0.05	0.52	
Teacher_Middle	-1.84	0.29	<0.001
Teacher_High	-1.91	0.27	<0.001
Competence	0.02	0.005	<0.01
Attitude	0.007	0.003	<0.05

Table 6.1: Results from GLM with quasibinomial distribution during Phase B

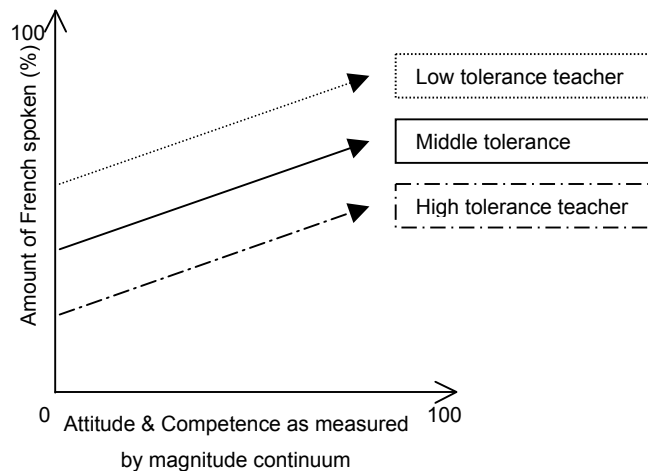


Figure 6.7: Simplified two-dimensional representation of the impact of the teachers' level of tolerance towards code-switching, the students' self-assessed French language competence and their attitudes towards the introduction of French as a language of instruction on the amount of French spoken during classroom interactions.

In addition to the type of teacher, students' language production is influenced by their self-assessed competence in spoken French and their attitude towards the introduction of French as a language of instruction. Within each teacher type, those students who hold positive attitudes towards the introduction of French as a language of instruction and those who rate their spoken French language competence highly speak relatively more French and, consequently, less Luxembourgish. The statistical analysis reveals that a high competence in spoken French has a stronger positive impact on the amount of French spoken during classroom interactions than the students' attitudes towards the introduction of French as a language of instruction. The estimated regression parameter

(estimate) represented in the model output (Table 6.1) provides insights into how strongly the various parameters influence the dependent variable. For example, with each 1 unit increase in competence the number of words uttered in French increases by 0.02 words (Table 6.1)

While attitudes and varying levels of language competence have an impact on language choice, students' language behaviour differs most significantly between lessons taught by teachers with different levels of tolerance towards classroom code-switching. French remains the most commonly spoken language in the presence of low tolerance teachers particularly for students who report positive attitudes towards French as well as a high speaking competence. Luxembourgish, on the other hand, is most extensively spoken in the presence of high tolerance teachers and in particular by students who hold negative attitudes towards the introduction of French as a language of instruction and who report poor speaking abilities in French.

In phase C the students' attitude towards French as a language of instruction is no longer a significant parameter in the GLM (Table 6.2). Therefore, students' language choice is no longer affected by their attitude towards French as a language of instruction. Their self-assessed French language competence, and most importantly, the various teachers' levels of tolerance towards classroom code-switching remain significant parameters in the model and continue to shape students' language use during classroom interactions. French is still spoken more extensively in low tolerance classes by students with strong self-assessed French language competence. Inversely, the highest proportion of Luxembourgish is spoken by students reporting poor French speaking abilities and in the presence of high tolerance teachers.

	Estimate	Standard error	P value
Intercept	-0.60	0.73	
Teacher_Middle	-0.91	0.27	<0.001
Teacher_High	-2.29	0.28	<0.001
Competence	0.02	0.01	<0.05
Attitude	0.002	0.004	0.62

Table 6.2: Results from GLM with quasibinomial distribution during Phase C

The loss of significance of the attitudinal factors between phases B and C indicates that students' attitudes towards the use of French as a language of instruction have a stronger effect on their language behaviour when French is first introduced as a language of instruction. The findings of the statistical analysis demonstrate that language choice inside the classroom is conditioned by various factors. A temporary link between language attitudes and language behaviour has been quantitatively established. However, students' language choice is most significantly affected by their teachers' level of tolerance towards classroom code-switching and their self-assessed French language competence. Students' language behaviour inside the classroom must, therefore, be viewed in light of the various multilingual strategies adopted by high, middle and low tolerance teachers outlined in chapter 5. While various factors constraining students' language choice could be identified through the statistical analysis, it is important to note that the models presented above fail to explain a large proportion of the variation present in the data. The models yield high dispersion parameters indicating that additional factors that were beyond the control of this study and were, consequently, not tested during the statistical analysis influence students' language behaviour. This limitation does not constitute an unanticipated finding as various personal factors such as students' like or dislike of teachers, their level of tiredness or their enthusiasm for the subject matter are likely to affect their language choice and could not be quantitatively measured and tested. Nonetheless, a correlation is established between students' language choice and their self-assessed French language competence, their attitudes towards French as a language of instruction and their teachers' varying levels of tolerance towards classroom code-switching.

6.3 Participation in classroom activities and educational achievements

The analysis presented in chapter 5 revealed that high tolerance teachers speak more Luxembourgish and initiate code-switches into Luxembourgish more frequently (particularly for curriculum access functions) than their colleagues who display lower levels of tolerance towards the use of multiple languages in classroom interactions. This variation in teachers' behaviour in turn has an effect on students' code choice during their participation in classroom activities. As outlined above (6.2.2), students speak more Luxembourgish and less French in the presence of high than middle and low tolerance teachers. These behavioural patterns enable us to conclude that students speak more Luxembourgish when they are in the presence of teachers who both tolerate and use Luxembourgish as a language of instruction.

A quantification of students' conversational turns allows us to gain insights into students' degree of participation in lessons taught by different types of teachers. During phase B, students on average take 156 turns in high tolerance classes followed by 118 turns in middle tolerance and 83 turns in low tolerance classes (Figure 6.8). We can observe a slight decline in the average number of student turns between phases B and C. The frequency counts of student turns reveals that they participate more extensively in classroom activities when they are taught by teachers displaying higher levels of tolerance towards classroom code-switching or, in other words, when they are permitted to speak Luxembourgish.

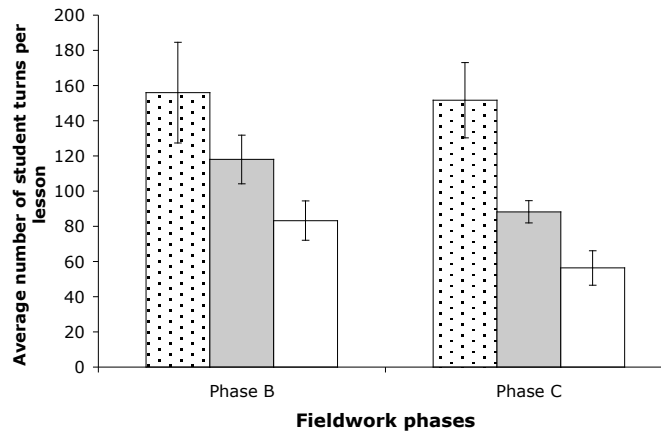


Figure 6.8: Average number of student turns in lessons taught by high, middle and low tolerance teachers across phases B and C. Dotted = high tolerance lessons, grey = middle tolerance lessons, white = low tolerance lessons. Error bars = standard error.

The analysis of students’ code choice and their degree of participation in classroom activities has drawn attention to the role of various influential factors such as the teachers’ level of tolerance towards classroom code-switching, students’ attitudes towards the introduction of French as a language of instruction as well as their self-assessed competence in spoken French. The increase in middle and high tolerance teachers’ Luxembourgish code-switching for curriculum access between phases B and C was interpreted as an indication of the students’ continuing difficulties with the use of French as a language of instruction (5.5). Additionally, we can observe a slight increase in the students’ use of Luxembourgish between phases B and C. Further analysis into the potential effects of the change of the language of instruction from German to French on students’ educational achievements is, therefore, required.

While language behaviour and language attitude data draw attention to students’ potential struggle with the introduction of French as a language of instruction, a longitudinal analysis of students’ grades in the various subjects taught by teachers included in the sample of this study can throw further light onto the question of whether the change of the language of instruction directly affects educational achievements. In Luxembourg’s education system, assessment is primarily based

on the continuous evaluation of students' progress through written class tests. The academic year comprises three terms in which students complete multiple written tests for each subject. Final grades for each academic year reflect the mean of the grades achieved in each term. Phase A coincides with the third term of the last year of German medium education. Students' grades from phase B are based on the average achieved during the first term of French medium education while phase C overlaps with the third term of the first year of French medium education. Tests are graded on a scale ranging from 1 to 60 marks where marks higher than 30 represent a pass. The following labels are commonly employed to describe the various grade brackets: very good (50-60 marks), good (40-49), satisfactory (30-39), insufficient (20-29), bad (10-19), very bad (1-9).

Due to the absence of high tolerance teachers in phase A, the longitudinal analysis of students' educational achievements is solely based on the grades they obtained in subjects taught by the middle and low tolerance teachers included in the sample. In order to investigate the potential impact of students' attitudes towards the introduction of French as a language of instruction and/or their self-assessed French language competence on their educational achievements, the classification of students according to their attitudes and language competence (5.2.1) is introduced as an independent variable in the analysis. Due to the small sample size, comparisons of grades across time and different groups of students were not statistically tested. While tests for statistical significance would be appropriate with a larger sample size, the following analysis will solely report trends.

In subjects taught by middle tolerance teachers we can observe an overall drop in grades between phases A and C for negative attitude/high competence, negative attitude/low competence and positive attitude/low competence students (Figure 6.9). Students who hold positive attitudes towards French as a language of instruction and who report a high French language competence do not display a decrease in the grades obtained in subjects taught by middle tolerance teachers. During phase B students who hold positive attitudes towards French as a language

of instruction on average obtain higher grades than their peers reporting negative attitudes in subjects taught by middle tolerance teachers. Between phases B and C, we can observe an improvement in most students' educational achievements. Students reporting negative attitudes but a high French language competence display the most striking improvement between phases B and C. On the other hand, students holding negative attitudes towards French as a language of instruction as well as reporting poor French language competence experience a further decrease in their grades.

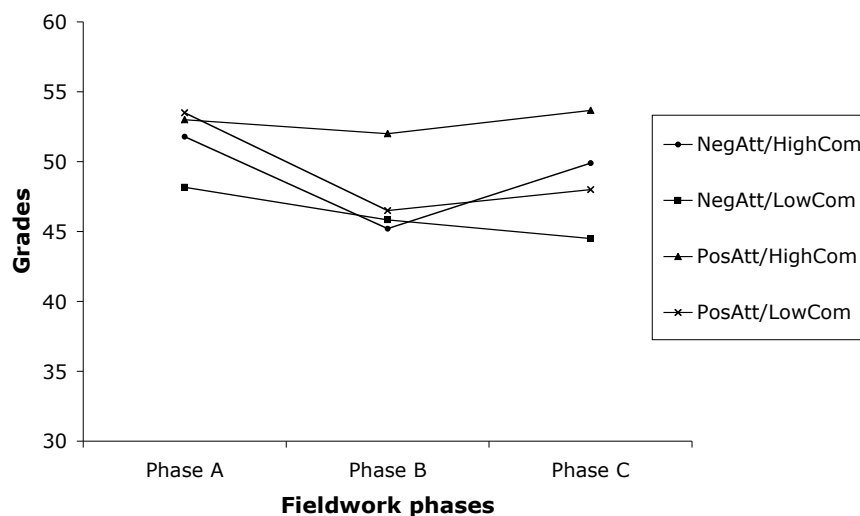


Figure 6.9: Longitudinal overview of students' grades in middle tolerance teachers' classes. Neg = negative, Pos = positive, Att = attitude, Com = competence.

Students' grades also undergo changes in subjects taught by low tolerance teachers. Overall, grades are lower in subjects taught by low than by middle tolerance teachers. During the switch of the language of instruction from German to French (from phase A to B) grades drop for all students except for those who hold positive attitudes towards French as a language of instruction and simultaneously report a high French language competence. These students' grades also further improve between phases B and C. Students holding positive attitudes towards French but who report a low French language competence display a drop

in educational achievements during the introduction of French as a language of instruction (A to B). However, their grades considerably improve between phases B and C and almost equal positive attitude/high competence students' grades by the end of the first year of French medium education. A continuing decline in educational achievements can be observed for all students who hold negative attitudes towards the use of French as a language of instruction. This decline is almost identical for negative attitude/high competence and negative attitude/low competence students between phases A and B. However, the decline sharpens between phases B and C for negative attitude/low competence students. By the end of the first year of French medium education their grades have decreased from an average of 45 out of 60 marks, equivalent to 'good' (Phase A), to an average of 36 out of 60 marks, equivalent to satisfactory (Phase C).

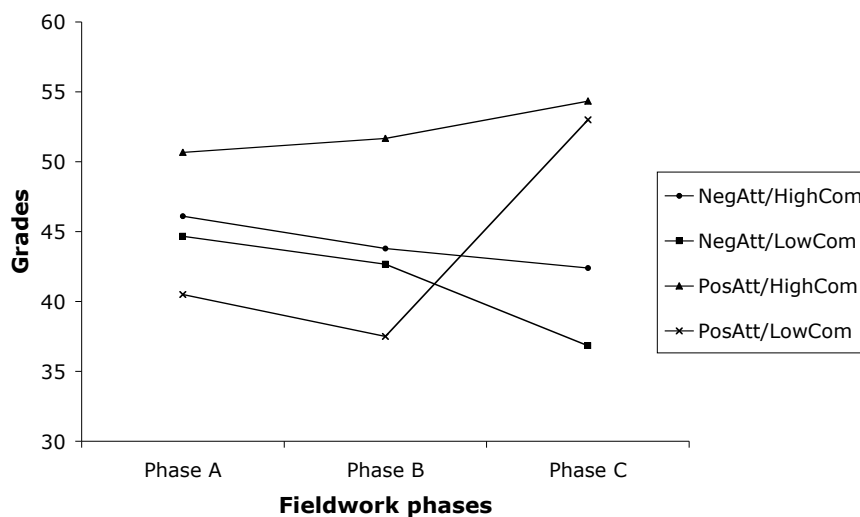


Figure 6.10: Longitudinal overview of students' grades in low tolerance teachers' classes. Neg = negative, Pos = positive, Att = attitude, Com = competence.

To sum up, the switch of the language of instruction affects students' educational achievements on the whole. Students who hold negative attitudes towards the introduction of French and who simultaneously report a low French language competence are most strongly affected by the change of the medium of

instruction. In fact, their grades continue to decline after French is first introduced as a medium of instruction and reach a low point at the end of phase C in subjects taught by both low and middle tolerance teachers. The drop in negative attitude/high competence students' grades in middle tolerance teachers' subjects during phase B reveals itself as temporary as a subsequent increase can be observed in phase C. In low tolerance teachers' classes, however, the same students experience an ongoing decline in their educational achievements.

The introduction of French as a medium of instruction after the first three years of secondary education is largely regarded by teachers and students as a means to improve students' French language abilities. Figure 6.11 displays a longitudinal overview of students' grades in French. The longitudinal data apply to groups of students and the trends described below, therefore, do not reflect changes in individual students' grades. First of all, students' self-assessments of their French language competence are reflected in the grades they achieve in French language classes. Positive attitude/high competence students achieve the best results followed by their peers who also assess their French language competence as high but who hold negative attitudes towards the use of French as a language of instruction. Low competence students expressing both positive and negative attitudes obtain considerably lower grades than high competence students. The overlap between students' self-assessed competence and their French grades suggests that students are able to objectively judge their French language competence. The longitudinal representation of their French grades highlights that no marked improvement can be observed in students' grades despite the fact that French is introduced as a language of instruction for all subjects during phase B.

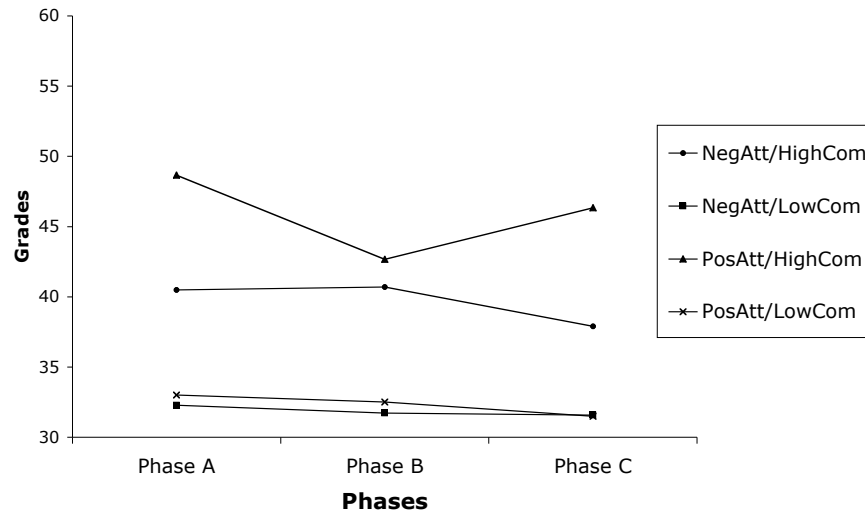


Figure 6.11: Longitudinal overview of students' grades in French. Neg = negative, Pos = positive, Att = attitude, Com = competence.

Students' included in the sample for this study are on average academically very strong. In Luxembourg's schools a minority of students opt to study Latin. Students who are academically weak are actively discouraged from enrolling in Latin classes. The group of students sampled for this study all study Latin. These students were chosen as informants due to practical reasons related to the data collection. Further details regarding the rationale behind this decision can be found in section 3.5.2. The students sampled for this study are not immune to the negative impact of the introduction of French as a language as instruction on their educational achievements despite the fact that they represent an academic elite in Luxembourg's student population. In particular, negative attitude/low competence students do not quickly overcome the challenges imposed by the use of French as a medium of instruction as can be seen by the continuing decline in the grades they obtain in subjects taught by both middle and low tolerance teachers.

6.4 Longitudinal changes in students' language attitudes and competence

The four-fold categorisation of students according to their attitudes towards the use of French as a language of instruction and their self-assessed French language

competence is based on magnitude continuum data collected prior to the switch of the medium of instruction from German to French (end of phase A). The categorisation of students remains unchanged for the analysis of language production data collected during all three fieldwork phases despite the fact that students' attitudes and self-assessed competence may change. This step is undertaken as the primary interest of this research lies in identifying the impact of the change of the language of instruction on students who hold either negative or positive attitudes and assess their French language competence as either high or low when French is first introduced as a medium of instruction. In other words, by keeping the categorisation stable we can reveal whether the change of the language of instruction has a more severe long-term or short-term effect on, for example, negative attitude/low competence students than positive attitude/high competence students.

While the categorisation remains unchanged during the analysis of students' language production and their educational achievements over time for the abovementioned reasons, an investigation of any progressive changes in students' attitudes and self-assessed language competences can nevertheless provide us with a more comprehensive understanding of the consequences of officially changing the medium of instruction from German to French. At the end of phase C, new magnitude continuum measurements of students' attitudes towards the use of French as a language of instruction and their self-assessed competence in French were carried out in order to track any potential changes in attitudes and perceptions of language competence. By the end of the first year of French medium education (phase C), 14 students (i.e. 66 percent of sampled students) express more negative attitudes towards the use of French as a language of instruction than at the end of German medium education (Table 6.3). Similarly, 13 students (i.e. 62 percent of sampled students) record a lower score when assessing their French language competence at the end of the data collection than just prior to the introduction of French as a medium of instruction.

	Attitude		Competence	
	N	%	N	%
Positive Change	7	33.3	8	38
Negative Change	14	66.6	13	62
Total	21	100	21	100

Table 6.3: Average positive or negative change in students' attitudes towards the use of French as a language of instruction and their self-assessed competence in spoken French.

Figure 6.12 displays the average extent of positive and negative changes recorded in students' attitudes and perceived language competences on a magnitude continuum scale ranging from 0 to 100. Students reporting an improvement in French language competence, on average demonstrate an increase of 11.83 points on the magnitude continuum. The average decline in language competence consists of 7.62 points. The 33.3 percent of students who express more positive attitudes towards French at the end of the data collection show an average increase of 31.37 points. The remaining 66.6 percent of students report attitudes that are on average 19.69 points lower at the end of phase C than when they were first measured at the end of phase A. To sum up, students' attitudes and self-assessed language competences undergo largely negative changes. The most pronounced changes can be observed in language attitudes, particularly among students who display a positive attitudinal change. The high proportion of students who report lower levels of competence at the end of the first year of French medium education than prior to the switch of the language of instruction emerges as an unanticipated finding. However, this lack of substantial improvements in students' self-assessed French language competence is also reflected in the longitudinal analysis of students' grades in French language classes (Figure 6.11). As the introduction of French as a medium of instruction is frequently seen as the most efficient way to improve students' French language abilities, the negative developments in students' self-assessed as well as externally-assessed French language competence cast doubts on the effectiveness of this policy.

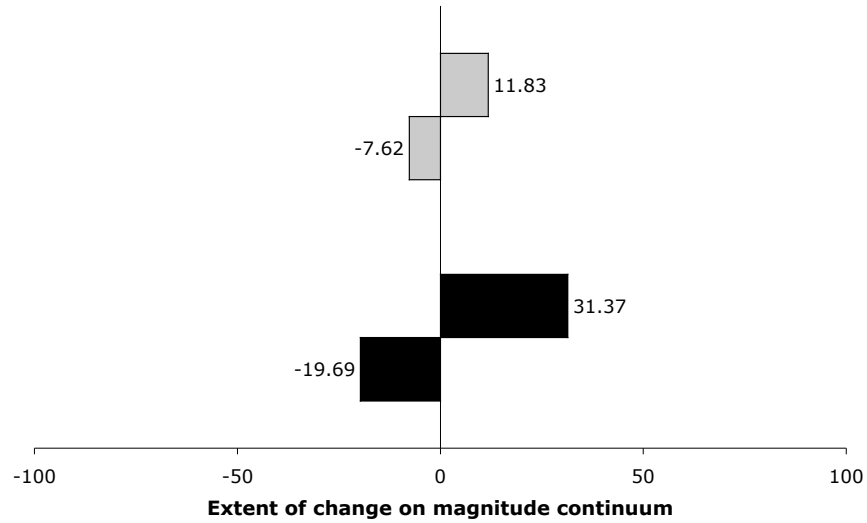


Figure 6.12: Magnitude of average positive and negative changes in students' attitudes towards French as a language of instruction and their self-assessed French language competence between the end of phase A and the end of phase C. Black = changes in attitude, grey = changes in competence

6.5 Summary

The quantitative analysis of students' self-reported and observed language behaviour in classroom interactions draws attention to the fact that the realities of the classroom are not in agreement with the official imposition of French as a language of instruction. As previously noted, the findings reported in this chapter apply to a limited sample of students. Students with low self-assessed French language competences in particular report an extensive use of Luxembourgish. The statistical analysis of students' code choice during recorded classroom interactions reveals that their behaviour is most significantly correlated with their teachers' level of tolerance towards classroom code-switching followed by their French language competence and attitudes towards French. Students not only speak more Luxembourgish in the presence of high tolerance teachers but they also participate more extensively in classroom interactions. Furthermore, the use of French as a language of instruction has a largely negative impact on educational achievements, particularly for students who hold negative attitudes

towards French and perceive their own French language competence as poor. Finally, by the end of the first year of French medium education the majority of students express more negative attitudes towards the use of French as a language of instruction and report lower French language competences than prior to the switch of the medium of instruction (i.e. at the end of phase A). The largely negative development in students' self-assessed French language competence is also reflected in their educational achievements in French language classes. Consequently, students demonstrate considerable difficulties with the introduction of French as a language of instruction and their increased participation in classes where the use of Luxembourgish is tolerated suggests that students experience fewer obstacles when they are taught in Luxembourgish, the language most commonly used for communication beyond the educational context.

6.6 Student-initiated code-switching and transfer into Luxembourgish

6.6.1 Linguistic speaker profiles

The illustration of students' language choice inside the classroom (6.2.2) and their apparent difficulties with the introduction of French as a medium of instruction at the beginning of phase B can be investigated further through a close analysis of language alternation practices revealing some of the functions fulfilled by student-initiated code-switching and transfer into Luxembourgish. Four students, one from each attitude/competence type, were selected for an in-depth analysis of multilingual language production. An illustration of the four chosen students' language attitudes, language competence and patterns of code choice can provide us with a better understanding of the linguistic profile of the students sampled for this case study. Figure 6.13 displays the magnitude continuum scores showing the chosen students' degree of positivity towards the use of French as a language of instruction (black) and their self-assessed competence in spoken French (grey) as measured by the magnitude continuum. Positive and negative attitude students show considerable differences in their attitudes towards French as a medium of

instruction. Differences between high and low language competence types are less marked as students on average report relatively high language competences (see 3.6.4 for further details).

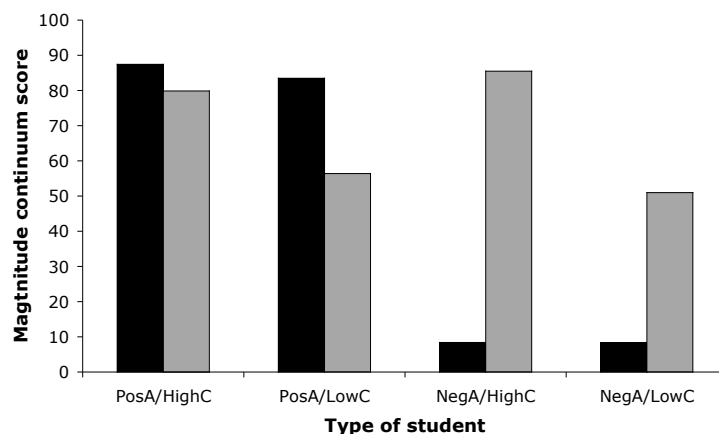


Figure 6.13: Attitudes and self-assessed French language competence of four students chosen for the close analysis of student-initiated code-switching into Luxembourgish. Black = attitude towards the use of French as a language of instruction, grey = self-assessed French language competence. Pos = positive, neg = negative, A = attitude, C = competence.

In terms of code choice, the four students chosen for the pragmatic analysis of multilingual language behaviour follow the patterns of language use identified for the whole student sample (6.2.2). In fact, positive attitude students (both high and low competence) use French more extensively than their peers who express negative attitudes towards French as a language of instruction (Figure 6.14). Simultaneously, the lower the students' competence in French the more Luxembourgish they speak during classroom interactions. French constitutes the most widely spoken language by all students except the negative attitude/low competence student who utters 90 percent of her turns in Luxembourgish.

While a clear pattern in the proportional use of Luxembourgish and French emerges among the four chosen students, we can observe a high degree of variability in the number of words spoken by individual students (Table 6.4). In

particular, the negative attitude/low competence student rarely participates in classroom activities as can be seen through the fact that she utters a total of only 58 words throughout 23 school lessons recorded during phases B and C. Data extracts portraying the various functions fulfilled by student-initiated code-switching and transfer into Luxembourgish will first be qualitatively analysed (6.6.2). In addition, a quantitative analysis of the functions fulfilled by students' code-switches and instances of transfer into Luxembourgish will be included in order to reveal any behavioural discrepancies between the various types of students (i.e. attitude/competence types) and in the presence of the different types of teachers (i.e., high, middle and low tolerance towards classroom code-switching) (6.6.3).

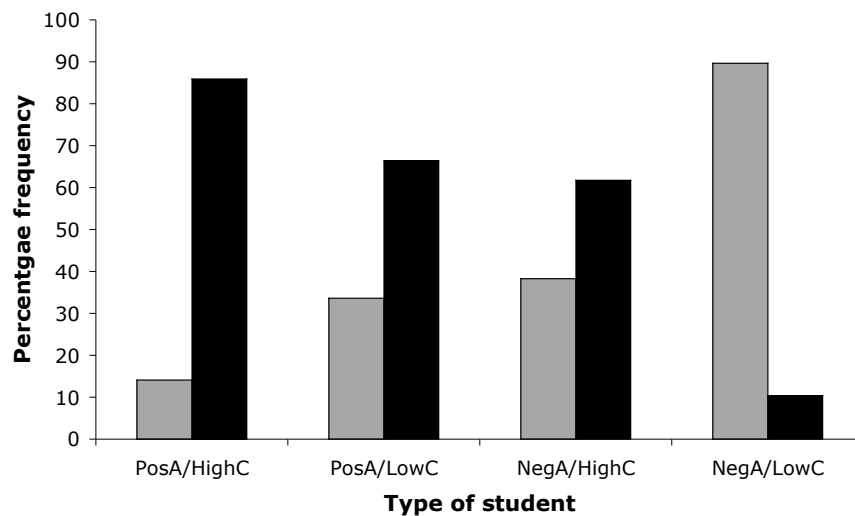


Figure 6.14: Proportional use of French and Luxembourgish by the four students chosen for the close analysis of student initiated code-switching into Luxembourgish (during phases B and C). Black = French, grey = Luxembourgish. Pos = positive, neg = negative, A = attitude, C = competence.

	Luxembourgish	French	Total
Positive Attitude/High Competence	113	688	801
Positive Attitude/Low Competence	112	221	333
Negative Attitude/High Competence	727	1173	1900
Negative Attitude/Low Competence	52	6	58

Table 6.4: Number of words uttered by the four students chosen for the pragmatic analysis of code-switching into Luxembourgish throughout French medium education (Phases B and C).

6.6.2 Pragmatic functions of student-initiated code-switching and transfer into Luxembourgish

The various functions fulfilled by students' code-switching and transfer into Luxembourgish demonstrate considerable overlap with the broad division of code-switching and transfer for curriculum access, for management of classroom discourse and for interpersonal relations identified by Ferguson (2003: 39) and employed during the pragmatic analysis of teacher-initiated code-switching and transfer (5.3.1). Students initiate code-switching/transfer into Luxembourgish for multiple reasons and the following functions will be illustrated with data extracts and discussed in relation to the three-fold categorisation applied to teacher-initiated code-switching and transfer:

1. Clarification
2. Compensation for lack of French language competence
3. Addressee specification
4. 'Off-lesson' concern
5. Opposition
6. Other

The clarification function (1) of student-initiated code-switching and transfer resembles the direct forms of clarification subsumed under the clarification function of teacher-initiated language alternation (5.3.2). Students' code-

switching into Luxembourgish fulfilling a clarification function consists of requests, carried out in Luxembourgish, to further explain problematic subject matter ultimately aiming to aid comprehension of curriculum content. Teacher-initiated and student-initiated code-switching fulfilling clarification functions therefore represent opposite ends of the same spectrum, namely providing (in the case of teachers) and requesting (in the case of students) clarification of curriculum content. The interaction displayed in extract 6.1 takes place during a mathematics lesson focusing on geometrical drawings. In lines 1 to 7, the teacher explains how to draw a geometrical figure in line with Thales' theorem discussed during previous lessons. Marc initiates a code-switch into Luxembourgish in line 11 (line 10 in translated extract) when asking for clarification regarding the angle at which a particular line needs to be drawn. The teacher responds to Marc's clarification request in Luxembourgish (lines 14-18) before switching back to French when describing the next step to be carried out in the geometrical drawing (line 18/17). Marc's clarification request, carried out in Luxembourgish, is motivated by a lack of comprehension of the mathematical concept under discussion.

- 1 Teacher: oui c'est-à-dire il faut partager uh le premier vecteur il
 2 faudra quelle partie **wat ass dat d'Längt vum U muss**
 3 **der also an zwee andeelen a fënnëf mol déi huelen**
 4 construction de Thalèse **also dir huet den U Vecteur**
 5 **OK maer brauche fënnëf halwer** donc un deux vous
 6 reliez deux avec l'extrémité j'ai besoin de combiner de
 7 cinquièmes.
- 8 Tom: cinq.
- 9 Teacher: cinq deux trois quatre cinq et vous menez la parallèle par
 10 cinq.
- 11 Marc: **den uh di Droite di lo a fënnëf agedeelt ass ass dat egal**
 12 **op wéi a wéi eng Richtung also wéi ee Wenkel dass déi**
 13 **huet?**

14 Teacher: **dat spillt keng Roll dat dat kanns du uewen no ënnen**
15 **oder um Noper säin Blat daer kënnt natiirlech och**
16 **mee dat ass méi komplizéiert an zwee andeelen an**
17 **dann di doten Längt huelen an déi dann fënnef mol**
18 **opdroen huh dat geet natiirlech och also** vous partez du
19 point O vous tracer par O la parallèle au vecteur U.

1 Teacher: yes that means you have to divide uh the first vector
2 which part do you need **what's the length of U you have**
3 **to divide this into two and take five times this one**
4 Thales' construction **so you take the U vector we need**
5 **five halves** so one two you combine two with the
6 extremities I need to combine the fifths.

7 Tom: five.

8 Teacher: five two three four five and you draw the parallel through
9 five.

10 Marc: **the uh the line that's been divided up into five does it**
11 **matter in which direction well at what angle it is?**

12 Teacher: **it doesn't matter you can put at the top at the bottom**
13 **or in your neighbour's notebook you could of course**
14 **also but that is more complicated divide it into two**
15 **and take those lengths and draw them on five times**
16 **that's of course also possible** so you start at point O and
17 you draw through O the parallel line to vector U.

Extract 6.1: Student-initiated code-switch into Luxembourgish fulfilling a clarification function. Regular font = French, bold font = Luxembourgish.

In extract 6.2, the class discuss various types of street plans (i.e. radio-concentric, semi radio-concentric, prestige etc.) which are in place in different cities across the world. In line 8, Marc code-switches into Luxembourgish when asking the

teacher to clarify and to repeat which type of street plan can be found in Amsterdam. Having received clarification from the teacher (in French), Marc asks the same question in relation to other cities. The second clarification request (line 10) coincides with a further code-switch into Luxembourgish. These instances of code-switching co-occur with Marc's request to clarify aspects of curriculum content that he failed to hear or understand the first time the teacher explained them. In fact, the teacher had previously mentioned which types of city plans are in place in Amsterdam, Brussels, Paris and Moscow.

- 1 Teacher: Paris voilà vous avez son site initial ici île de la cité est
2 une île qui est inondable au milieu de la Seine et après
3 bien sûr la ville s'est élargie dans toutes les directions
4 alors autres catégories ce sont les plans de prestige ce
5 sont des plans de ville qui ont été dessinés par la volonté
6 politique donc pas par quelque chose qui s'est agrandi uh
7 à fur et à mesure des siècles mais qui a été planifié Marc.
8 Marc: **uhm Amsterdam war dat lo bei den?**
9 Teacher: semi semi radio-concentriques.
10 Marc: **ah OK an Bréissel Paräis a Moskau den éischen.**
11 Teacher: radio radio-concentrique.
12 Marc: OK.
13 Teacher: alors un exemple précis d'un plan uh de prestige est la
14 ville de Brasilia la capitale actuelle de Brésil.

- 1 Teacher: Paris now you have its original site here île de la cite is an
2 island which is liable to flooding in the middle of the
3 Seine and afterwards of course the city grew in all
4 directions now other categories there are plans of prestige
5 they are city plans that were drawn based on political
6 agendas so not through something that gradually became

- 7 bigger over the centuries but something that was planned
Marc.
- 8 Marc: **uhm Amsterdam was that part of?**
- 9 Teacher: semi semi radio-concentric.
- 10 Marc: **ah OK and Brussels Paris and Moscow the first?**
- 11 Teacher: radio radio-concentric.
- 12 Marc: OK.
- 13 Teacher: so a specific example of a plan of prestige is the city of
14 Brasilia the current capital of Brazil.

Extract 6.2: Student-initiated code-switches into Luxembourgish fulfilling a clarification function. Regular font = French, bold font = Luxembourgish.

In addition to requests for repetition of already explained concepts (Extract 6.2) and for further explanation of difficult subject matter (Extract 6.1), students code-switch into Luxembourgish when requiring clarification of terminology due to a lack of French language competence. Extract 6.3 originates from a history lesson focusing on the wars led by France in the aftermath of the French Revolution. The teacher discusses the various ways countries can produce weapons when they are faced with a lack of essential raw materials and suggests that the army can confiscate metal objects to transform them into weapons. In line 11, Tom code-switches into Luxembourgish when asking the teacher to explain the French term ‘réquisitionner’ (‘to confiscate’) employed in the teacher’s preceding turn. The various examples of student-initiated code-switching into Luxembourgish for clarification purposes illustrate the ways in which students employ Luxembourgish in order to fully understand curriculum content.

- 1 Teacher: alors qu’est-ce qu’on peut faire si on manque de matière
2 première justement pour fabriquer des armes il vous faut
3 des armes.
- 4 Kevin: uh on l’importe on l’importe.
- 5 Teacher: ah c’est difficile parce que ça coûte beaucoup d’argent on

6 va pas l'importer mais votre réflexion est juste on va
7 mettre la main sur uh tous ces objets justement en métal
8 etc. donc ce qu'on va dont ce qu'on a besoin dans
9 d'autres termes on réquisitionne voilà un terme qui est
10 peut être important pour vous.

11 Tom: **wat ass dat?**

12 Teacher: réquisitionner je ne sais pas si on a déjà vu ce terme le
13 terme allemand serait un peu comme dans l'idée de
14 confisquer *beschlagnahmen*.

1 Teacher: so what could you do if you lacked raw
2 materials particularly to produce weapons you need
3 weapons

4 Kevin: you import them you import them.

5 Teacher: ah that's difficult because it costs a lot of money you will
6 not import them but your thinking is right you will get
7 hold of all of these objects particularly in metal etc. so
8 what you will what you need in other terms you
9 confiscate here that's maybe a word that is important for
10 you.

11 Tom: **what is that?**

12 Teacher: confiscate I'm not sure if we have already seen that term
13 the German term would be a little bit like the idea of
14 *confiscate*.

Extract 6.3: Student-initiated code-switch into Luxembourgish fulfilling a clarification function. Regular font = French, bold font = Luxembourgish, italic font = German.

In addition to clarification requests (1), students code-switch into Luxembourgish when they are faced with a lack of French language competence (2) and struggle to express an idea or argument in French. The interaction represented in extract

6.4 originates from a geography lesson focusing on the distribution of various employment types according to different economic sectors (i.e. primary, secondary or tertiary). The teacher asks students to provide a specific example of a job or activity pertaining to the primary sector (line 2). In line 8, Kevin mentions ‘producers’ as a type of job that can be described as a primary sector activity. When the teacher encourages Kevin to expand his idea by asking ‘producers of what?’ Kevin code-switches into Luxembourgish (line 10). Kevin’s use of Luxembourgish coincides with his need to discuss the concept of ‘raw materials’ in French, an expression that he is either not familiar with or that he is temporarily unable to retrieve from his memory. Kevin, therefore, code-switches into Luxembourgish in order to complete his turn and to provide an answer to the teacher’s question (line 10). The presence of multiple pauses in Kevin’s turn signals hesitation and contributes to the interpretation of this code-switch into Luxembourgish as a means to compensate for a temporary lack of French language competence.

- 1 Teacher: alors on avait parlé quand même des trois secteurs le
 2 secteur primaire c’était qui quel type d’activité Alice.
 3 Alice: l’agriculture et uh par exemple quelqu’un qui travaille
 4 avec les plantes.
 5 Teacher: oui pour généraliser cela.
 6 Eric: l’alimentation.
 7 Teacher: oui l’alimentation.
 8 Kevin: uh les producteurs.
 9 Teacher: les producteurs de quoi.
 10 Kevin: uh (.) des (.) **Rohstoff** an sou.
 11 Teacher: des matières premières exactement c’est ça la définition
 12 du secteur primaire que vous notez derrière le secteur
 13 primaire.

- 1 Teacher: now we did however speak about the three economic

- 2 sectors the primary sector included what type of activity
Alice.
- 3 Alice: agriculture and uh for example someone who works with
4 plants.
- 5 Teacher: yes to generalise this.
- 6 Eric: food.
- 7 Teacher: yes food.
- 8 Kevin: uh manufacturers.
- 9 Teacher: yes manufacturers of what.
- 10 Kevin: uh (.) of (.) **raw materials and so on.**
- 11 Teacher: of raw materials exactly that's the definition of the
12 primary sector that you will write next to primary sector.

Extract 6.4: Student-initiated code-switch into Luxembourgish to compensate for a lack of French language competence. Regular font = French, bold font = Luxembourgish.

A further illustration of student-initiated code-switching into Luxembourgish connected with a temporary lack of French language competence can be found in extract 6.5. During this history lesson the class discuss the strategic layout of the ancient fortress of Luxembourg City. The teacher expresses doubts (line 3) about Marc's argument that there is a tunnel underneath the fortress (line 1) and encourages him to provide further details related to this idea. When Marc fails to put forward a convincing argument he code-switches into Luxembourgish by repeating 'well a tunnel' (line 5). As in extract 6.4, this code-switch into Luxembourgish is preceded by a pause signalling hesitation. The clarification (1) and lack of competence (2) functions of student-initiated code-switching into Luxembourgish bear resemblance with teacher-initiated code-switching for curriculum access (5.3.2). In fact, students' use of Luxembourgish when requesting clarification (1) or expressing an idea or argument that they are unable to explain in the official medium of instruction (2) ultimately contributes to their understanding and learning of curriculum content.

- 1 Marc: mais on a uhm il y a un un tunnel au-dessus de la de
 2 Luxembourg de la forteresse.
 3 Teacher: le tunnel qu'est ce que vous voulez dire par ce tunnel.
 4 Marc: donc Vauban a uh n'a pas bombardé dessus par un rocher
 5 mais il y a aussi eu une sorte de (.) **jo en Tunnel**.
 6 Teacher: ça c'est pas ça c'est par après ce dont vous parlez c'est ce
 7 qu'il a installé en somme par après l'idée de votre tunnel
 8 là je ne suis pas fort je ne suis pas tout à fait d'accord.
- 1 Marc: but there is uhm there is a tunnel underneath of of
 2 Luxembourg of the fortress.
 3 Teacher: the tunnel what do you mean by this tunnel.
 4 Marc: so Vauban did uh did not attack from above on the rock
 5 but there was also some kind of (.) **well a tunnel**.
 6 Teacher: that's not that's afterwards what you are talking about
 7 that's what he did install as such later on the idea of a
 8 tunnel I'm not very strong I don't completely agree with

Extract 6.5: Student-initiated code-switch into Luxembourgish to compensate for a lack of French language competence. Regular font = French, bold font = Luxembourgish.

Further functions of student-initiated code-switching and transfer into Luxembourgish overlap with some of the narrow functions of teacher-initiated code-switching subsumed under 'the management of classroom discourse' category (5.3.3). Instances of code-switching/transfer into Luxembourgish frequently occur when students specify an addressee other than the teacher. The addressee specification function of student-initiated code-switching into Luxembourgish can also be found in teachers' multilingual language behaviour (5.3.3, extracts 5.13 and 5.14). In extract 6.6, Alice asks for permission to close the window as the noise entering from outside the school building makes it difficult for her to follow the lesson (line 4). While the teacher agrees, Marc directly addresses Alice in Luxembourgish when claiming that it is too hot inside

the classroom to close the window. Similarly, Kevin initiates a further code-switch into Luxembourgish when giving Alice clear instructions to close only one window (line 8). By taking into account Marc and Kevin's gaze (directed at Alice) it was possible to establish with confidence that their Luxembourgish turns were specifically aimed at Alice as opposed to the teacher.

- 1 Teacher: qu'est-ce qui est dit dans ce premier petit alinéa à propos
2 donc de la chambre du roi etc est-ce que quelqu'un peut
3 brièvement présenter uh cet aspect de Versailles.
4 Alice: uh est-ce qu'on peut.
5 Teacher: vous fermez les fenêtres parce que.
6 Marc: **et ass deck warm.**
7 Teacher: oui mais écoutez s'il vous plaît.
8 Kevin: **da maach emol di eng Fënster do zou.**
9 Teacher: on pourra peut-être en fermer une et mettre justement les
10 parties derrières.
11 Marc: laissez celle-là ouverte s'il vous plaît parce qu'il fait si
12 chaud.

- 1 Teacher: what is said in this first little paragraph about the quarters
2 of the king etc could someone briefly outline this aspect
3 of Versailles.
4 Alice: can we?
5 Teacher: you close the windows because.
6 Marc: **it's really hot.**
7 Teacher: yes but listen please.
8 Kevin: **close that one first then.**
9 Teacher: we could maybe close one and put these parts
10 behind.
11 Marc: please keep that one open because it's so hot.

Extract 6.6: Student-initiated code-switch into Luxembourgish to specify a particular addressee other than the teacher. Regular font = French, bold font = Luxembourgish.

In extract 6.7, Kevin code-switches into Luxembourgish when accusing Eric of having stolen a page from his folder. By code-switching into Luxembourgish when addressing one of his peers, Kevin clearly signals that his turn does not concern the teacher. Gaze and a decrease in volume contribute to the interpretation of this code-switch as fulfilling an addressee specification function. This particular function of student-initiated code-switching into Luxembourgish is rarely connected with the students' attempt to learn and understand curriculum content but bears more similarities with teacher-initiated code-switching for the management of classroom discourse.

- 1 Teacher: vous aviez à lire pour aujourd'hui la fin du premier cours
2 sur l'urbanisation qui se trouve à la page cent quarante-
3 quatre qui oppose les villes du nord et les villes du sud
4 alors je ne suis plus sûr est ce que nous avons lu tout le
5 chapitre deux l'important constraste planétaire.
6 Sarah: oui.
7 Teacher: oui même avec la centralité etc alors les villes du nord et
8 les villes du sud texte que vous aviez à lire pour
9 aujourd'hui.
10 Kevin: **jo bon et ass mäint dat hues du rem aus mengem**
11 **Classeur geholl.**
12 Teacher: texte que nous reprenons Eric si vous avez fini continuez
13 avec le premier alinéa.

- 1 Teacher: you had to read for today the end of the first lesson about
2 urbanisation which is on page one hundred and forty-four
3 which is opposite cities of the north and cities of the
4 south so I'm not sure anymore did we read all of chapter

- 5 two the important planetary contrast.
- 6 Sarah: yes.
- 7 Teacher: yes even with the centrality etc now cities of the north
8 and cities of the south a text that you had to read for
9 today.
- 10 Kevin: **yes well it is mine you have taken it from my**
11 **folder again.**
- 12 Teacher: a text that we will go back to now Eric if you are finished
13 continue with the first paragraph.

Extract 6.7: Student-initiated code-switch into Luxembourgish to specify a particular addressee other than the teacher. Regular font = French, bold font = Luxembourgish.

In addition to functioning as a tool to specify particular addressees, students employ Luxembourgish in order to mark a shift of frame towards some ‘off-lesson’ concern (4). As previously outlined (Section 5.3.3 and Extract 5.16) teachers also code-switch into Luxembourgish when discussing concepts and topics that are not directly related to curriculum content. In extract 6.8, Marc code-switches into Luxembourgish when asking permission to go to the toilet (line 7). Marc’s request is not connected with the preceding discussion of the geographical location of a particular river in the north of Luxembourg (lines 1-6). By code-switching into Luxembourgish Marc clearly demarcates his personal question from the preceding classroom discourse carried out in French.

- 1 Teacher: uh pas c’est uh dans une vallée si vous connaissez
2 Vianden ça se trouve dans une vallée au fond d’une
3 vallée donc Vianden comme exemple au fond d’une
4 vallée à l’abris des vents qui s’appelle.
- 5 Kevin: Our.
- 6 Teacher: l’Our voilà un peu de géographie luxembourgeoise oui.
- 7 Marc: **daerf ech wann ech gelift op d’Toilette.**
- 8 Teacher: **jo du mengs du humpels op d’Toilette** on continue.

- 1 Teacher: uh no it's in a valley if you know Vianden it's located in
2 a valley at the bottom of a valley so Vianden as an
3 example at the bottom of a valley sheltered from winds
4 it's called.
- 5 Kevin: Our.
- 6 Teacher: the Our there we go a bit of Luxembourgish geography
yes.
- 7 Marc: **can I go to the toilet please?**
- 8 Teacher: **you mean can you limp to the toilet** we continue.

Extract 6.8: Student-initiated code-switch from French into Luxembourgish coinciding with a shift of frame towards 'off-lesson' concern. Regular font = French, bold font = Luxembourgish.

The abovementioned functions of students' code-switching into Luxembourgish can easily be connected with curriculum access and management of classroom discourse functions outlined during the analysis of language alternation practices among teachers (5.3.3). However, teachers as well as students also engage in classroom code-switching for interpersonal relations (5.3.4). While teachers primarily code-switch into Luxembourgish to build a closer relationship with students through joking and displaying their identity as members of the local community (as opposed to their role as teachers), students frequently employ Luxembourgish to signal opposition and to mark an antagonistic stance (5). The narrow functions of students and teachers' code-switching for interpersonal relations, therefore, represent opposite ends of the same spectrum. Student-initiated code-switches into Luxembourgish fulfilling an 'opposition' function (5) typically coincide with a student's expression of disagreement with the teacher and can be interpreted as an attempt to redefine the power relations between students and teachers. In extract 6.9, Tom code-switches into Luxembourgish (line 4) when voicing his disagreement with the teacher's statement that the city of Venice is located in a lagoon. In the following turns, Tom repeatedly code-

switches into Luxembourgish when repeating and expanding his disagreement (lines 6 and 10). These instances of code-switching can be interpreted as the student's attempt to add emphasis to his disagreement and to signal opposition. Due to the official imposition of French as the sole permitted language of instruction, Luxembourgish becomes the 'marked' code inside the classroom (see 2.4.3 for details on the Markendess Model). By deviating from the unmarked medium of communication (French), Tom attracts attention and displays an antagonistic stance both in terms of language choice (Luxembourgish) and the content of his opposing argument.

- 1 Teacher: lagune c'est clair pour uh Venise c'est clair huh on voit
2 très clairement qu'il y a un cordon d'îles de sable devant
3 la ville de Venise.
4 Tom: **dat ass keng Lagun.**
5 Teacher: pardon.
6 Tom: **et ass keng Lagun.**
7 Teacher: quoi?
8 Tom: Venise.
9 Teacher: Venise?
10 Tom: **jo well di Staumauer virdrun gebaut hunn.**
11 Teacher: il y a quand même l'eau de mer qui pénètre bon il y a eu
12 des changements au cours du temps ce qu'on peut dire ici
13 c'est le site initial site original qu'on choisit les vénitiens
14 à ce moment là à ce moment là c'était une lagune.

- 1 Teacher: lagoon it's clear for uh Venice it's clear huh you can see
2 clearly that there is a band of sand islands in front of the
3 city of Venice.
4 Tom: **that's not a lagoon.**
5 Teacher: pardon me.
6 Tom: **it is not a lagoon.**

- 7 Teacher: what?
 8 Tom: Venice.
 9 Teacher: Venice?
 10 Tom: **yes because they built a dam in front of it.**
 11 Teacher: there is nevertheless sea water that enters well there have
 12 been changes over time what we can say here it's the
 13 initial site the original site that we choose the Venetians
 14 at that time at that time it was a lagoon.

Extract 6.9: Student-initiated code-switching into Luxembourgish fulfilling an 'opposition' function. Regular font = French, bold font = Luxembourgish.

A further example of student-initiated code-switching into Luxembourgish in order to signal 'opposition' is displayed in extract 6.10. During a lesson focusing on daily life in Versailles and the French King Louis XIV, Marc challenges the teacher's description of the king's typical morning activities when claiming that she has not assigned any time for the king's breakfast in her time schedule (line 5). When the teacher explains that the king has breakfast in his bedroom, Marc remains unconvinced and code-switches into Luxembourgish when voicing his continuing disagreement (line 8). In line 10, Marc initiates a code-switch back into French when qualifying his opposing stance through asking whether breakfast would have taken place so early. While Marc's code-switches into Luxembourgish add emphasis to his disagreement with the teacher's idea, his subsequent code-switch back into French signals a softening of his opposition.

- 1 Teacher: le roi est un roi très crétien au courant de la journée et il
 2 assiste à la messe à la une chapelle qui se trouve à
 3 l'intérieur du château de Versailles dont il assiste à la
 4 messe oui.
 5 Marc: mais vous avez mis le déjeuner uh et puis à dix heures la
 6 messe donc il mange?

- 7 Teacher: il mange dans sa chambre.
 8 Marc: **nee.**
 9 Teacher: le valet lui amène quelque chose.
 10 Marc: **jo mee** le déjeuner est déjà si tôt?
- 1 Teacher: the king is a very Christian king throughout the day and
 2 he attends mass at a chapel which is located inside the
 3 castle of Versailles where he attends mass yes.
 5 Marc: but you have written breakfast uh and then at ten mass so
 6 he eats?
 7 Teacher: he eats in his room.
 8 Marc: **no.**
 9 Teacher: le servant brings him something.
 10 Marc: **yes but** breakfast is that early?

Extract 6.10: Student-initiated code-switching into Luxembourgish fulfilling an 'opposition' function. Regular font = French, bold font = Luxembourgish.

Finally, distinct functions cannot always be assigned to individual instances of student-initiated code-switching. In fact, students frequently code-switch into Luxembourgish when simply providing answers to teachers' questions. In extract 6.11, Marc initiates a code-switch into Luxembourgish (line 4) when helping the teacher solve a mathematical task. This code-switch does not coincide with a clarification request, a shift of frame towards some 'off-lesson' concern, addressee specification or any of the abovementioned functions. The absence of pauses signalling hesitation renders it impossible for the analyst to interpret this code-switch as a student's means to compensate for a temporary lack of French competence. Consequently, a specific function cannot be revealed for this particular instance of code-switching into Luxembourgish.

- 1 Teacher: **sou lo brauch der dann nëmmen ze ersetzen** deux tiers
 2 est égal à BC sur EF **wat kënne mer do** alors on connaît

- 3 BC je vois?
- 4 Marc: **dass BC ning ass.**
- 5 Teacher: **ning ok** divisé par.
- 6 Marc: X.
- 7 Teacher: EF c'est-à-dire neuf divisé par X.
-
- 1 Teacher: **now all you need to do us replace** two thirds equals
- 2 BC divided by EF **what can we there** so we know BC I
- 3 see?
- 4 Marc: **that BC equals nine.**
- 5 Teacher: **nine ok** divided by.
- 6 Marc: X.
- 7 Teacher: EF which means nine divided by X.

Extract 6.11: Student-initiated code-switch into Luxembourgish fulfilling no identifiable function. Regular font = French, bold font = Luxembourgish.

The illustration of the multitude of functions fulfilled by students' language alternation practices draws attention to the fact that Luxembourgish plays a crucial and often strategic role in classroom interactions. The various functions outlined above overlap considerably with the functions of teacher-initiated code-switching and transfer previously discussed (5.3). Ferguson's three-fold categorisation of teacher-initiated code-switching for curriculum access, for the management of classroom discourse and for interpersonal relations, therefore, also applies to students' multilingual language behaviour. The strategic use of multiple languages in the same classroom by both students and teachers undoubtedly lends support to the argument that classroom code-switching must be regarded as an asset in educational settings.

6.6.3 Quantitative analysis of students' multilingual behaviour

While this chapter is primarily concerned with revealing the extent to which Luxembourgish features in students' classroom interactions as well as the functions underlying their use of the local language, it is nevertheless crucial to reveal the proportion of student-initiated code-switching and transfer into Luxembourgish, French and German during French medium education (Phases B and C). On average students code-switch into Luxembourgish more extensively than into French. No instances of student-initiated code-switching into German were recorded (Figure 6.15). During the initial period of French medium education (Phase B), we can observe a clear difference in code-switching behaviour between students holding negative and positive attitudes towards the introduction of French as a language of instruction. In fact, 'negative attitude' students code-switch into Luxembourgish more extensively than 'positive attitude' students. During phase C, the behavioural difference between 'positive' and 'negative attitude' students becomes less rigid. All students except for the 'negative attitude/low competence' student primarily code-switch into Luxembourgish. However, the 'negative attitude/low competence' student's high proportion of code-switches into French during phase C must be viewed with caution as this pattern is based on a total of 4 tokens. As previously outlined (Table 6.4), this student rarely participates in classroom interactions and consequently seldom engages in classroom code-switching. While students regularly code-switch into Luxembourgish in the presence of low, middle and high tolerance teachers, student-initiated code-switching into French can only be observed in high tolerance classes.

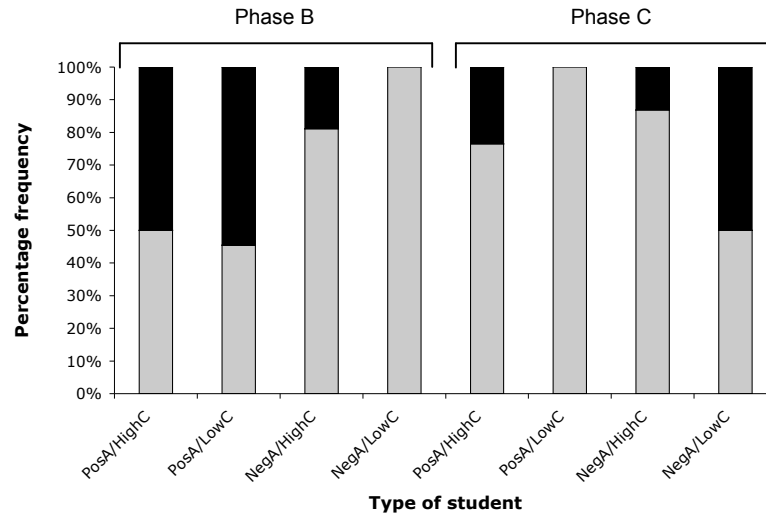


Figure 6.15: Distribution of student-initiated code-switching during French medium education for four students chosen to represent the various attitude and competence types. Black = CS into French, Grey = CS into Luxembourgish. Pos = positive, Neg = negative, A = attitude, C= competence. N= 129.

The language distribution for code-switching outlined above is not reflected in the students' choice of language when employing transfer (Figure 6.16). First of all, transfer emerges as a rare phenomenon in comparison to code-switching as only 29 instances of transfer (as opposed to 129 code-switches) were recorded in the speech of the four students chosen to represent the various attitude and competence types. Moreover, during phase B only two out of four students employ transfer during classroom interactions. Students display a higher proportion of French than Luxembourgish transfer (Figure 6.16). This pattern stands in contrast with their high proportion of Luxembourgish code-switches (Figure 6.15). While instances of German transfer were recorded in both phases, we can observe a proportional decline throughout the first year of French medium education. Student-initiated transfer into French exclusively coincides with their need to refer to the written text or when employing subject-matter related terminology. A similar pattern was identified in the pragmatic analysis of teacher-initiated transfer into French (5.3.5).

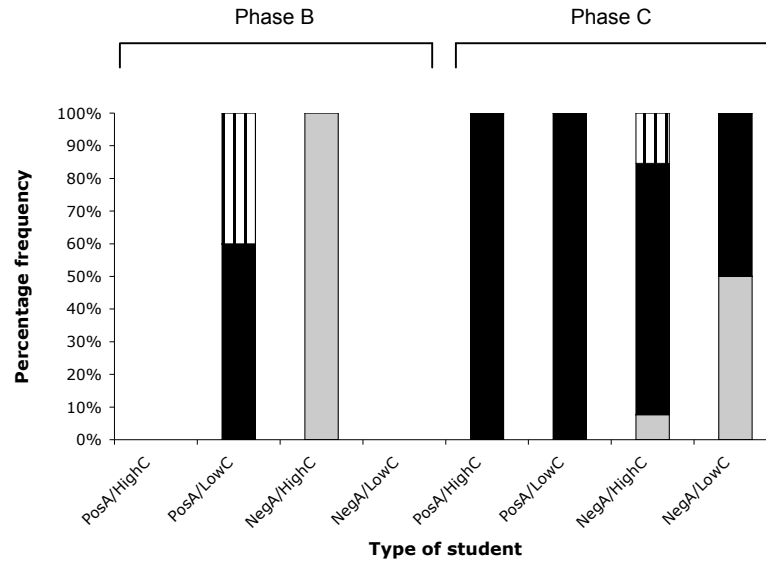


Figure 6.16: Distribution according to language of student-initiated transfer during French medium education for the four students chosen to represent the various attitude and competence types. Black = transfer into French, Grey = transfer into Luxembourgish, Vertical stripes = German. Pos = positive, Neg = negative, A = attitude, C= competence. N= 29.

The case study nature of the analysis of students’ language alternation practices has led to a limited number of code-switching and transfer tokens into Luxembourgish (i.e. a total of 98 tokens). Instances of code-switching and transfer into Luxembourgish are therefore not separated during the quantitative analysis of the pragmatic functions. The qualitative exemplification of the various functions fulfilled by students’ transfer and code-switching (6.6.2) has revealed three broad types of functions: clarification, compensation for lack of French language competence and various narrow functions helping students to manage classroom discourse and interpersonal relations (e.g., ‘addressee specification’, ‘off-lesson concern’ ‘other’). As previously outlined the clarification and compensation for lack of French language competence functions are directly related to students’ attempts to learn and understand curriculum content. In light of the students’ difficulties with the introduction of French as a language of instruction (6.2, 6.3 and 6.4), an investigation of the extent to which students initiate code-switches or transfer into Luxembourgish for curriculum access

purposes can bring us closer to an understanding of the consequences of the current medium of instruction policies.

Throughout the first year of French medium education (phases B and C) the majority of code-switching and transfer into Luxembourgish fulfil functions other than ‘clarification’ and ‘compensation for lack of French language competence’ (Figure 6.17). Code-switching and transfer fulfilling ‘addressee specification’, ‘off-lesson’ concern’, ‘opposition’ and various other unidentified functions are grouped under a ‘miscellaneous’ category represented in Figure 6.17. Instances where Luxembourgish is employed to overcome a temporary lack of French language competence decline from 15 percent in phase B to 1.7 percent in phase C. On the other hand, code-switches and transfer for clarification purposes increase from 5 to 20 percent between the two phases. However, on average only 20 percent of students’ code-switching and transfer are identified as fulfilling either ‘clarification’ or ‘compensation’ functions in both phases B and C. This pattern suggests that students rarely initiate changes in the language of interaction from French to Luxembourgish for curriculum access purposes.

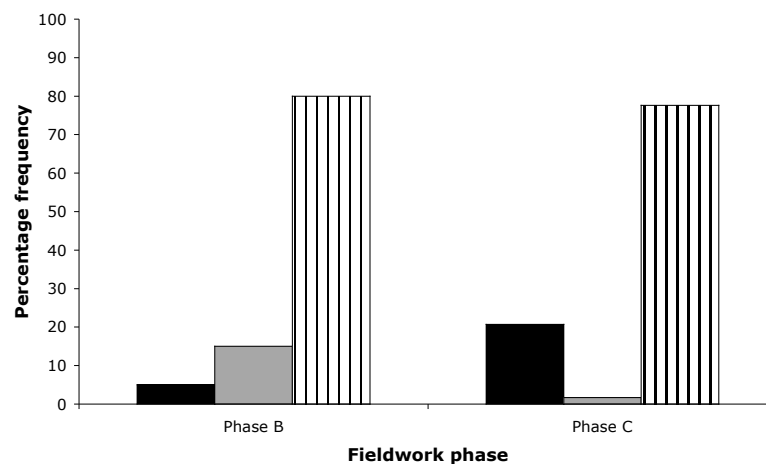


Figure 6.17: Functional distribution of student-initiated code-switching and transfer into Luxembourgish across phases B and C. Black = clarification, grey = compensation for lack of French language competence, vertical stripes = miscellaneous.

The functional distribution of students' language alternation practices during lessons taught by teachers holding different levels of tolerance towards classroom code-switching (5.2) highlights that students' requests for clarification are most commonly carried out in Luxembourgish in the presence of middle tolerance teachers as opposed to low and high tolerance teachers (Table 6.5). This pattern must be viewed in conjunction with the functional analysis of teachers' multilingual language behaviour (5.4.3). In fact, the majority of low tolerance teachers' code-switching into Luxembourgish fulfils classroom management functions such as 'addressee specification', 'off-lesson concern', 'instruction giving' etc (Figures 5.6 and 5.7). Consequently, in the presence of low tolerance teachers, students primarily use Luxembourgish for similar purposes (i.e. 'addressee specification', 'off-lesson concern' etc.) as the use of Luxembourgish for curriculum access is neither extensively employed nor tolerated by this type of teacher. In the case of high tolerance teachers, on the other hand, the low proportion of student-initiated code-switching and transfer for curriculum access function (i.e. 'clarification' and 'compensation') must be attributed to different factors. As high tolerance teachers themselves extensively employ Luxembourgish for curriculum access purposes, students are rarely faced with a need to initiate a code-switch into Luxembourgish when attempting to learn and understand curriculum content. Finally, middle tolerance teachers rarely resort to disciplinary actions when students speak Luxembourgish during classroom interactions (5.2) and they code-switch into Luxembourgish for curriculum access functions on average 42.5 percent of the time themselves (Figure 5.6). Consequently, students more extensively initiate code-switches into Luxembourgish when asking for clarification or discussing complex concepts (i.e. 'compensation' function) in their presence. Moreover, middle tolerance teachers largely speak French during classroom interactions (Figure 5.3) and students are, therefore, more often faced with a need to code-switch into Luxembourgish than in classes taught by high tolerance teachers.

	Low		Middle		High	
	Phase B	Phase C	Phase B	Phase C	Phase B	Phase C
CLA	0	16	12.5	27	0	15
COM	9	0	25	0	7.7	5
MISC	91	84	62.5	73	92.3	80

Table 6.5: Functional distribution of student-initiated code-switching and transfer into Luxembourgish (in percentages) during lessons taught by low, middle and high tolerance teachers in phases B and C. CLA = clarification, COM = compensation for lack of French language competence, MISC = miscellaneous.

To sum up, the analysis of the language behaviour among the four students chosen to represent the various attitude and competence types demonstrates that code-switching and transfer into Luxembourgish rarely functions as a tool to access curriculum content. In classes taught by high tolerance teachers, this finding does not constitute a cause for concern as high tolerance teachers extensively code-switch into Luxembourgish themselves when conveying curriculum content and particularly when clarifying complex subject matter. In low tolerance classes, on the other hand, the lack of code-switching into Luxembourgish for curriculum access on the part of both teachers and students raises the question of whether students fully internalise curriculum content.

6.6.4 The multilingual map task

The qualitative (6.6.2) and quantitative (6.6.3) analyses of students' language alternation practices have shown that Luxembourgish functions as a strategic tool for students to fulfil particular goals during classroom interactions such as signalling opposition, requesting clarification, compensating for a temporary lack of French language competence etc. In addition, the statistical analysis of students' language choice, in terms of the number of words uttered in French and Luxembourgish (6.2.2), revealed that during phases B and C the higher the students' self-reported French language competence, the more French they spoke inside the classroom. Similarly, the more positive their attitude towards French as

a language of instruction, the more extensively they employed French as a medium of communication; however, the influence of attitudes declined between phases B and C.

The correlation of attitudinal and perceived language competence data with naturally-occurring language production data can be further complemented with experimental data in order to gain more detailed insights into the ways in which students make use of multiple languages in a teaching and learning environment. The four students chosen for the in-depth analysis of code-switching and transfer participated in a multilingual map task (3.6.3). This experimental data collection method consists of an interactive task involving two participants ('instruction giver' and 'instruction follower') who are instructed to discuss directions using hand-drawn maps which include landmarks labelled in both French and Luxembourgish. Further methodological details can be found in section 3.6.3. The multilingual map task was devised and implemented in order to throw light onto the following research questions:

- Are students likely to employ French translations when describing landmarks that are labelled in Luxembourgish on their maps?
- Are students more likely to employ code-switching or transfer into Luxembourgish when they are under strict instructions to speak French in an experimental setting?
- Do students' language attitudes and/or French language competence play a role in whether they employ French translations or code-switching/transfer into Luxembourgish during the multilingual map task?
- Is it possible to trigger code-switching or transfer under experimental conditions?

The multilingual map task is carried out in pairs comprising an Instruction Giver (IG) and an Instruction Follower (IF). Due to time and space restrictions during the completion of the fieldwork it was impossible to pair up specific students;

consequently, two of the four chosen students completed the multilingual map task in partnership with peers who are not included in the in-depth analysis of student-initiated code-switching and transfer. Table 6.6 displays the roles and partners of the four chosen students. Examples of the maps can be found in Appendix B. The upcoming analysis will focus on the multilingual behaviour of the four chosen students and will occasionally draw on production data of the two additional partners (Eric and Sarah) in order to be able to fully interpret the interactions.

Participants	Type	Role	Partner
Kevin	PosA/HighC	Instruction Follower	Tom
Tom	PosA/LowC	Instruction Giver	Kevin
Marc	NegA/HighC	Instruction Giver	Eric
Jenny	NegA/LowC	Instruction Giver	Sarah

Table 6.6: Sample of students who participated in the multilingual map task. Pos = positive, Neg = negative; A = attitude, C = competence.

The maps given to both IGs and IFs include 9 landmarks labelled in either French or Luxembourgish. All labels comprise multiple words. Further details concerning the rationale behind the choice of labels can be found in section 3.6.3. One of the research questions underlying the multilingual map task consists of whether the need to mention a landmark labelled in Luxembourgish triggers a code-switch into Luxembourgish for the subsequent interaction or whether students simply embed Luxembourgish labels into their French utterance (i.e. transfer). The quantification of students' language behaviour during the multilingual map task reveals that transfer emerges as the most common outcome of a student's need to mention a landmark labelled in Luxembourgish (Figure 6.18). On average, 90 percent of language alternation tokens consist of transfer as opposed to code-switching.

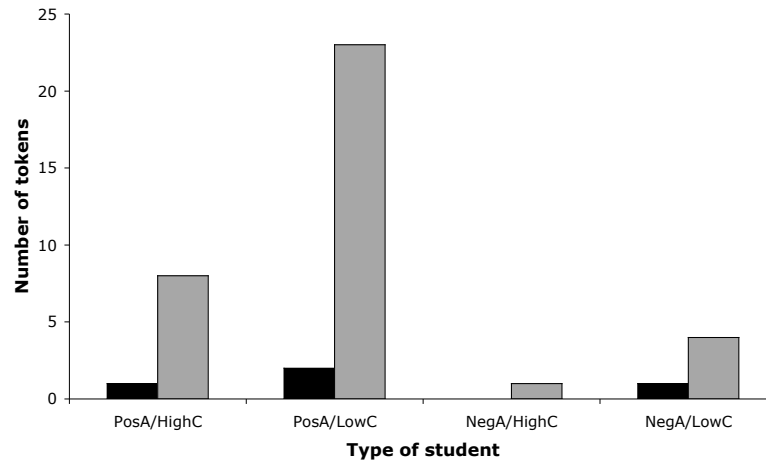


Figure 6.18: Frequency of occurrence of Luxembourgish transfer and code-switching during the multilingual map task for students with differing attitudes towards French as a language of instruction and varying levels of French language competence. Black = CS into Luxembourgish, grey = transfer into Luxembourgish; Pos = positive, Neg = negative; A = attitude, C = competence. N = 40.

As can be seen in extract 6.12, Tom (PosA/LowC) and Kevin (PosA/HighC) rely extensively on Luxembourgish transfer during their attempt to recreate the IG's trail on the IF's map. The presence of Luxembourgish labels on both maps rarely triggers a redefinition of the language of interaction (i.e. a code-switch into Luxembourgish). Both students simply embed the Luxembourgish labels into their French utterances. Jenny (NegA/LowC) employs the same strategy when providing directions to her partner, Sarah, in a further map task. The absence of long pauses and/or fillers preceding Tom, Kevin and Jenny's instances of Luxembourgish transfer suggests that they did not attempt to translate the various labels into French but automatically employed the Luxembourgish labels printed on their maps.

- 1 Tom: puis en bas vers **Rad vun enger Perdkutsch** ok alors
- 2 entre **Perdkutsch** et **warm Quellen** au **Bauerenhaff** tu
- 3 n'as pas de **warm Quellen** tu as **Bauerenhaff** ok entre
- 4 **Bauerenhaff** et **Rad vun enger Perdkutsch** à droite tu

- 5 passes à droite.
- 6 Kevin: oui
- 7 Tom: et alors entre belvedere qu'est ce que tu as au-dessous du
- 8 **Rad vun enger Perdiskutsch?**
- 8 Kevin: **Aussiichtspunkt.**
- 9 Tom: alors **Aussiichtspunkt** je n'ai pas de **Aussiichtspunkt** ok
- 10 alors tu dois passer entre entre le **Aussiichtspunkt** et le
- 11 **Rad vun enger Perdiskutsch** à gauche.
- 1 Tom: then at the bottom towards **wheel of a horse-drawn**
- 2 **carriage** ok so in between **horse-drawn carriage** and
- 3 **hot springs** at the **farm** you don't have **hot springs** you
- 4 have **farm** ok between **farm** and **wheel of a horse-**
- 5 **drawn carriage** on the right you pass on the right.
- 6 Kevin: yes.
- 7 Tom: and then between viewpoint what have you got
- 8 underneath the **wheel of a horse-drawn carriage?**
- 9 Kevin: **viewpoint.**
- 10 Tom: so **viewpoint** I don't have any **viewpoint** ok you have to
- 11 pass between the **viewpoint** and the **wheel of a horse-**
- 12 **drawn carriage** on the left.

Extract 6.12: Examples of Luxembourgish transfer during map task conversation.

Regular font = French, bold font = Luxembourgish.

Marc, on the other hand, adopts a different strategy when providing instructions to his partner Eric in a further map task (Extract 6.13). Marc's only use of Luxembourgish transfer (line 1) is preceded by multiple fillers and an attempt to provide a translation of the Luxembourgish label 'waarm Quellen' ('hot springs'). This instance of Luxembourgish transfer must, therefore, be interpreted as a last resort when faced with the need to mention a landmark labelled in

Luxembourgish as opposed to an automatic reaction displayed in the case of Tom, Kevin and Jenny. In the subsequent turn, Eric assists Marc by providing a French translation for the Luxembourgish label. During this particular map task, the students' need to discuss landmarks labelled in Luxembourgish almost never results in either transfer or code-switching (Figure 6.18) but both students consistently employ French translations or descriptions during their conversation.

- 1 Marc: tu vois une sorte de je sais pas uhm sorte de uhm uhm
2 **waarm Quellen.**
3 Eric: uh *une source chaude.*
4 Marc: voilà *une source.*
5 Eric: moi je vois pas.
6 Marc: non pas *source* alors c'est une difference.
7 Eric: il y a un uh.
8 Marc: mais tu tu vois.
9 Eric: *une sorte de pneu.*
10 Marc: ah d'accord tu vas au-dessus de ce *pneu* ou dans mon cas
11 *les sources.*

- 1 Marc: you see a type of I don't know uhm type of uhm uhm **hot**
2 **springs.**
3 Eric: *uh a hot spring.*
4 Marc: exactly *a spring.*
5 Eric: me I don't see.
6 Marc: no no *spring* so it's a difference.
7 Eric: there us a uh.
8 Marc: but you you see.
9 Eric: *a type of tyre.*

10 Marc: ah I see you go over this *tyre* or in my case *the springs*.

Extract 6.13: Examples of students' use of French translations of Luxembourgish labels in order to avoid code-switching or transfer into Luxembourgish. Regular font = French, bold font = Luxembourgish, italic font = French translations/descriptions of Luxembourgish labels.

No marked differences in the language behaviour of students holding positive or negative attitudes towards French as a language of instruction can be observed; in fact, Kevin (PosA/HighC), Tom (PosA/LowC) and Jenny (NegA/LowC) all extensively employ Luxembourgish transfer during the completion of the map task. Marc (NegA/HighC), on the other hand, almost exclusively uses French translations of Luxembourgish labels. Interestingly, his partner Eric (NegA/HighC) opts for the same technique and even assists Marc in his attempts to provide French translations (Extract 6.13). Marc and Eric constitute the only pair of students who both report a high French language competence and simultaneously use French translations of landmarks labelled in Luxembourgish. The other two pairs (Kevin/Tom and Jenny/Sarah) include students with mixed levels of French language competence. No unequivocal link between students' self-assessed French language competence and their language behaviour during the multilingual map task can be established. However, a close analysis of the participants' linguistic profiles and their various interactive strategies suggests that students are more likely to employ French translations instead of Luxembourgish transfer or code-switching if they perceive their French language competence as high and are paired up with another high competence student.

During the completion of the map task the four chosen students initiated only four code-switches into Luxembourgish. The majority of these code-switches (3 out of 4) occurred when students addressed the researcher despite clear instructions not to ask any questions of the researcher, who for ethical reasons had to remain in the same room. Only one code-switch into Luxembourgish was triggered by a student's need to discuss a landmark labelled in Luxembourgish. Consequently,

full code-switches are difficult to trigger under experimental conditions. Transfer, on the other hand, emerges as the most common strategy adopted by students to complete the map task. The context of the map task is most comparable to lessons taught by low tolerance teachers as opposed to middle or high tolerance teachers as students were under strict instructions to speak only French. Moreover, the presence of the researcher and the experimental conditions contributed to the formality of the setting. The extremely low number of code-switches is therefore not an unanticipated finding. However, the high frequency of transfer into Luxembourgish, and the ensuing absence of translation attempts, suggests that the use of multiple languages in the same utterance or conversation constitutes a reality for many students in Luxembourg's education system.

6.7 Summary and discussion

The various analyses of students' language attitudes and behaviour draw attention to the fact that official medium of instruction policies are not fully implemented during classroom interactions recorded for the purposes of this study. In fact, largely negative attitudes towards French as a language of instruction prevail among students and Luxembourgish regularly features in classroom discourse. The popular multilingual image of Luxembourg's student population forming the basis for current educational policies is revealed as an idealisation of students' actual linguistic backgrounds and competences. In fact, the majority of students sampled for the ethnographic study typically employ only Luxembourgish beyond the educational context. Inside the classroom, they also make extensive use of Luxembourgish, particularly during lessons taught by teachers displaying a high level of tolerance towards classroom code-switching. Further analysis of students' behaviour showed that the level of participation in learning activities is highest in classes taught by high tolerance teachers, or in other words, in situations where students are permitted to speak Luxembourgish. The significant influence of the teachers' language behaviour and attitudes on students' choice of language and degree of participation in classroom activities draws attention to the limitations of

current language in education policies. In fact, the further teachers deviate from the official language of instruction policies, the more students participate in classroom activities.

Students primarily initiate code-switches or transfer into Luxembourgish for reasons other than gaining access to curriculum content. As previously outlined, this pattern does not constitute an unanticipated finding in high tolerance classes as high tolerance teachers themselves extensively employ Luxembourgish when clarifying lesson content and thus ensure students' comprehension of subject matter (5.4). However, the low tolerance teachers' rare use of Luxembourgish for curriculum access purposes must be viewed in conjunction with the lower level of student participation in these classes (6.3). This combination of factors raises the question of whether students are able to fully understand lesson content or whether students struggling with the use of French as a medium of instruction simply become silent in these lessons. The extremely low number of words uttered by negative attitude/low competence students suggests that the latter scenario is likely to be happening.

The longitudinal analysis of students' academic grades highlights that the change of the language of instruction from German to French also impacts on students' educational achievements. All students except those who simultaneously express positive attitudes towards French and have a high French language competence experience a decline in grades during the first term of French medium education (Phase B). Negative attitude/low competence students are most strongly affected, as their grades continue to decline throughout the first year of French medium education. Interestingly, during the multilingual map task only students who self-assess their French language competence as high made use of French translations instead of Luxembourgish transfer when having to discuss landmarks labelled in Luxembourgish (6.6.4). The absence of translation strategies among students who rate their French language competence as less high provides a further indication

that these students may not have the required language skills to successfully follow curriculum content taught in French.

Moreover, an investigation of students' attitudes and self-assessed French language competence over time reveals largely negative trends, as in phase C the majority of students report more negative attitudes towards French and a lower French language competence than prior to the introduction of French as a medium of instruction. These findings must be interpreted in the context of previous attitude research in educational settings that has described attitudes in terms of 'input' and 'output' factors (Baker, 1992: 12). While a favourable attitude towards a language can contribute to a learner's successful acquisition of that particular language (i.e. input), a negative learning experience can trigger negative attitudes towards that particular language (i.e. output). In addition to a decline in non-language subject grades for many students, we can observe a lack of improvement in French language grades. The improvement of French language abilities is frequently hailed as the primary goal of the introduction of French as a medium of instruction both in popular discourses as well as in messages conveyed to students by teachers. Consequently, students' attitudes towards French may worsen throughout the first year of French medium education as they fail to see the benefits (i.e. potential increase in French grades) and focus on the negative aspects (i.e. decline in non-language subject grades) of the switch of the language of instruction.

The various functions fulfilled by students' code-switching and transfer into Luxembourgish demonstrate that classroom code-switching constitutes an integral and often skilful part of classroom discourse. Due to its strict imposition of French as a language of instruction, Luxembourg's education system is based on a separation, or even monolingual, approach to bilingual education (2.5.2) despite the fact that the Ministry of Education proudly emphasises the multilingual nature of its student population. In reality, however, students frequently initiate code-switches and transfer into Luxembourgish and, therefore, adopt strategies akin to

concurrent approaches to bilingual education where the use of more than one language is encouraged during classroom interactions (2.5.2). Interestingly, during lessons taught by high tolerance teachers students occasionally initiate code-switches into French. This suggests that students are more likely to speak French voluntarily if classroom discourse is not governed by stringent medium of instruction policies prescribing the use of a single language of communication. The description of the various code-switching and transfer functions, therefore, draws attention to substantial shortcomings of separation and/or monolingual approaches to bi- or multilingual education and illustrates how less stringent medium of instruction policies, or even concurrent approaches, may help to create a more successful learning and teaching environment.

7 Synthesis

7.1 Introduction

This thesis set out to gain a detailed understanding of language attitudes and multilingual language behaviour among secondary school students and teachers in Luxembourg. By focusing on an educational context, the study also aimed to provide new insights into the ways in which students and teachers adapt to Luxembourg's official language in education policies in everyday classroom interactions. A connection between attitude research and policy development and implementation has long been established in the socio-psychological and socio-political wing of sociolinguistics (Spolsky, 2004: 14; Baker, 1992: 9; Lewis, 1981: 262). In fact, successful implementation of language policies is typically regarded as being dependent on the policy makers' awareness of the language attitudes of those who are directly affected by the policies. In reality, however, educational policies are frequently in conflict with guidelines emerging from applied sociolinguistic and educational research (Skutnabb-Kangas, 2000: 569). Throughout the course of this chapter, various theoretical and applied implications of the research findings presented in this thesis will be discussed. While considerable overlap exists between the theory and the direct applications of language attitude, language planning and policy and multilingualism in education research, the theoretical and applied implications will be presented separately (as far as possible) for purposes of clarity.

First of all, the connection between language attitudes and language behaviour will be reviewed in light of the findings of both the large-scale attitude study and the ethnographic language production study. Potential advantages of the methodological innovations devised for the purposes of this study will be related to the researcher's ability to successfully establish a connection between language attitudes and language behaviour. Furthermore, the role of language attitudes in the process of policy development and implementation will be evaluated in detail.

The various multilingual communicative strategies adopted by both students and teachers sampled for this study will be shown to substantiate previous research establishing code-switching as a communicative resource and highlighting some of the benefits of concurrent approaches to multilingual education. Luxembourg's multilingual education system will then be compared with other European contexts (e.g. United Kingdom, Spain) in which tensions between regional (e.g. Welsh, Gaelic, Catalan, Basque) and internationally powerful languages (e.g. English, Spanish) exist. Subsequently, the various direct applications of the research findings of this study will be presented and particular attention will be paid to the complex nature of Luxembourg's multilingual situation and some of the failures of current medium of instruction policies. Finally, various possibilities for future language in education policies in Luxembourg will be discussed in relation to the findings of this study.

7.2 Theoretical implications

7.2.1 Language attitudes and language behaviour

The link between attitudes and behaviour frequently constitutes the focus of inquiry in sociolinguistic research (Coupland *et al.*, 2005: 18). Attitudes are often studied due to a belief that they can help us understand and explain behaviour (2.3.6). While common-sense views about the connection between attitudes and behaviour typically lead people to believe that a change in attitude will automatically result in a change in behaviour, research often fails to unequivocally establish such a link (Garrett *et al.*, 2003: 8-9). The complex relationship between attitudes and behaviour lies at the heart of this thesis and a link between students' language attitudes and their code choice was statistically established in both the large-scale questionnaire study and the ethnographic investigation of classroom code-switching. The various factors that may have contributed to the possibility of successfully establishing this connection will be evaluated in detail below.

The statistical analysis of students' language choice in classroom interactions (6.2.2) showed that during the initial phase of French medium education students holding positive attitudes towards the use of French as a language of instruction spoke significantly more French (and less Luxembourgish) than their peers who expressed negative attitudes. During the analysis, particular attention was paid to the importance of adhering to the 'correspondence principle' (Bohner, 2001) when correlating attitudes with behaviour (2.3.6). According to this principle, attitudes and behaviour must be measured on the same level of specificity. In other words, analysts must refrain from comparing students' overall attitude towards French with their specific use of French inside the classroom. Classroom interactions belong to the educational domain and the attitudinal factor included in the analysis must therefore specifically focus on attitudes towards the use of French in an educational context. The measurement of students' attitudes (i.e. attitudes towards the use of French as a medium of instruction) and their behaviour (i.e. code choice during classroom interactions) on the same level of generality may have contributed to the ability of statistically revealing the interconnectedness of these factors.

While a connection between students' attitudes towards French as a medium of instruction and their use of French/Luxembourgish in classroom interactions could be established statistically, attention must be drawn to the complex network of factors which influence students' code choice. The statistical analysis revealed that two further factors (i.e. teachers' level of tolerance and students' self-assessed French language competence) had stronger effects on students' language choice in classroom interactions than their attitudes towards French as a medium of instruction (6.2.2). Therefore, students' language choice cannot solely be attributed to their language attitudes. Moreover, the statistical models yielded high dispersion parameters (6.2.2) indicating that the analysis failed to explain a large amount of the variation present in the data as various other factors that were not included in the model were in operation. As previously outlined, students' level of tiredness, their like/dislike of particular teachers and their mood are among

several factors that could not be included in the analysis as they could not be reliably measured (6.2.2).

The strong impact of the teachers' level of tolerance towards classroom code-switching on students' language choice suggests that language behaviour is intricately linked to the context in which it appears. For example, some students' negative attitudes towards French as a medium of instruction may temporarily have been overridden by the various disciplinary actions instigated by low tolerance teachers every time a student deviated from the official medium of instruction policy and employed Luxembourgish instead of French during classroom interactions. Garrett *et al.* (2003: 9) argue that people's language attitudes and their language behaviour are likely to change depending on the complexity of the context. They exemplify their claim with a job interview situation where a candidate may temporarily accommodate their speech style to that of their interviewer by diverging from their local dialect (towards which they generally hold very positive attitudes) if they believe that such behaviour could increase their chances of securing employment. Consequently, language behaviour is influenced by a multitude of factors both socio-psychological and contextual in nature. Researchers attempting to gain an understanding of the motivations underlying language behaviour are therefore faced with an extremely complex network of factors which all contribute to a speaker's language production to varying degrees.

The lack of agreement between attitudes and behaviour commonly reported in research findings may also be attributable to the researchers' failure to collect valid and reliable attitudinal data (Garrett *et al.*, 2003: 9). Attitude measurement constitutes a considerable methodological challenge as attitudes are defined as hypothetical constructs that are not directly observable (Eagley & Chaiken, 1992: 3) and that must be inferred from a collection of observable responses such as an informant's level of agreement with attitude statements (3.2). The complex nature of attitudes, therefore, calls for the use of detailed measurement tools that allow

informants to signal and analysts to recognise subtle differences in attitudinal responses.

During the design of this study, methodological decisions regarding the measurement of language attitudes were driven by a desire to gain insights as fine-grained as possible into informants' attitudes. Through the development and use of the magnitude continuum informants were given increased freedom of expression and the analyst was able to detect fine-grained details in the informants' attitudinal responses (3.2.5). The continuous nature of the attitudinal data allowed for a wider choice of statistical methods. This may have contributed to the possibility of statistically establishing a link between attitudes and behaviour. Students' attitudes towards French as a medium of instruction were included as a continuous, and therefore extremely fine-grained, explanatory variable in the Generalised Linear Model analysing the extent to which they employ French and Luxembourgish during classroom interactions (6.2.2). It was deemed crucial to avoid simplifying the measurement of students' language attitudes through the use of either a binary categorisation of students into 'positive' and 'negative' attitude types or an ordinal categorisation of students into 'strongly negative', 'mildly negative', 'mildly positive', 'strongly positive' types in light of the complex network of factors (many of which cannot be measured) that influence students' language choice.

The use of a continuous measurement scale also allowed for extremely detailed insights to be gained into the language attitudes of students who participated in the large-scale questionnaire study. In addition to providing the analyst with a very detailed measurement of students' ratings of individual attitude statements, the use of the magnitude continuum made it possible to analyse the attitudinal data through hypothesis testing with mixed-effects models. As previously outlined, mixed-effects models constitute an ideal statistical tool for the analysis of grouped attitude statements without losing any detail related to the individual statements included in the various groups (3.3.2). Consequently, during the

analysis of the questionnaire data the advantages of grouping attitudinal data (3.3.1) were gained without losing the detail of informants' responses to individual attitude statements. The methodological preoccupation with retaining as much detail as possible in the analysis of the attitudinal data may have helped to overcome some of the challenges of successfully accessing an abstract psychological variable and increasing the likelihood of identifying informants' attitudes. As Garrett *et al.* (2003: 9) argue that a lack of reliable and valid attitudinal data may sometimes be at the origin of researchers' inability to identify an agreement between language attitudes and language behaviour, the retention of as much detail as possible in the measurement and analysis of attitudinal data must be treated as a necessary step for sociolinguistic research aiming to uncover the role of socio-psychological factors in the production of language.

7.2.2 Socio-psychological and socio-pragmatic factors in multilingual education models

In addition to throwing further light onto the relationship between language attitudes and language behaviour, the findings reported in this thesis contribute to a growing body of evidence supporting the crucial role of language attitudes in language planning and policy activities. As noted before, the implementation of language policies has been shown to be highly dependent on the policy makers' understanding and awareness of the attitudes of the target population (2.3.5). The official ban of Luxembourgish as a medium of instruction at secondary school level stands in stark contrast with the reported language of instruction preferences of the students sampled for this study (4.2). In addition, students claim to frequently employ Luxembourgish in classroom interactions (4.2) and for those who participated in the ethnographic study it was revealed that the more negative their attitudes towards the official medium of instruction (French), the more extensively they spoke Luxembourgish.

In light of these findings, we can conclude that language acquisition planning (2.5.7) has largely failed in Luxembourg's education system as official medium of instruction policies are frequently ignored. Both students and teachers extensively speak Luxembourgish inside the classroom despite the official medium of instruction policies prescribing the sole use of either French or German. In addition, the quantitative analysis of students and teachers' code-switching practices suggested that students engage most extensively in classroom activities during lessons taught by high tolerance teachers who regularly initiate code-switches into Luxembourgish. High tolerance teachers not only code-switch into Luxembourgish more frequently than their colleagues who display lower levels of tolerance towards classroom code-switching, but they also represent the only type of teachers who primarily code-switch into Luxembourgish to provide access to curriculum content. Consequently, we can suggest that in addition to displaying higher levels of participation in classroom activities, students may gain a better understanding of curriculum content when official language of instruction policies are not adhered to.

The various analyses presented in this thesis draw attention to the fact that the daily activities in multilingual classrooms are not only affected by macro-level factors such as language attitudes and official medium of instruction policies, but also by micro-level pragmatic factors such as students and teachers' strategies aiming to understand/clarify curriculum content or to manage classroom discourse and interpersonal relations. The functional analysis of students and teachers' code-switching practices must therefore be viewed in relation to both previous research on multilingual classroom behaviour and language planning and policy activities.

For purposes of comparability with other linguistic contexts, the pragmatic analysis of students and teachers' use of multiple languages during classroom interactions was based on Ferguson's (2003: 39) three-fold categorisation of classroom code-switching functions: code-switching for curriculum access, code-

switching for the management of classroom discourse, code-switching for interpersonal relationships (5.3.1). Recent studies of multilingual classroom practices carried out in a vast array of linguistic contexts have identified largely comparable pragmatic functions of classroom code-switching and Ferguson's three-fold model (2003: 39) attempts to capture these various functions with their differing labels under the three umbrella categories mentioned above. The application of this three-fold model to the data collected for this study revealed that students and teachers in Luxembourg strategically employ multiple languages to fulfil specific goals such as the clarification of curriculum content, disciplining and praising, signalling shifts in activity etc. (5.3 and 5.6.2).

The findings reported in this thesis bear similarities with studies of multilingual language behaviour carried out in different educational contexts (i.e. primary, secondary and tertiary sectors) in various countries across the world (Raschka *et al.*, 2009; Liebscher & Daily O'Cain, 2005; Probyn, 2009; McGlynn & Martin, 2009; Üstünel & Seedhouse, 2005) (see 2.4.7 for further details). Due to the high degree of functionality of code-switching behaviour revealed in these various studies, the use of multiple languages in classroom interactions emerges as a strategic communicative tool frequently employed by both students and teachers. Collectively, these studies (including the findings presented in this thesis) reveal the 'pedagogic potentials' of classroom code-switching (Blackledge & Creese, 2010: 204). Switching between languages has been shown not only to aid students' learning processes (5.3.2; Tien, 2009: 179; Raschka *et al.*, 2009: 163) and their degree of participation in classroom activities (6.3; Tien, 2009: 183) but also to equip teachers with a tool for the management of classroom discourse (5.3.3; Raschka *et al.*, 2009: 163) and for the negotiation of their relationships with students (5.3.4; Probyn, 2009: 133, McGlynn & Martin, 2009: 148).

While classroom code-switching undoubtedly emerges as a communicative asset as opposed to a communicative deficit (Ferguson, 2009: 233), the use of multiple languages in classroom interactions often takes place in opposition to official

medium of instruction policies prescribing the use of a single language of instruction. Tensions between the use of local languages and official media of instruction not only apply to Luxembourg's education system but are often reported in post-colonial contexts (McGlynn & Martin, 2009; Probyn, 2009) where the languages of the former colonisers continue to be employed as official media of instruction and classroom activities are governed by strict 'no vernacular policies' (McGlynn & Martin, 2009: 137). The discrepancies between official medium of instruction policies and the findings from applied sociolinguistic and educational research give rise to the question of why policy makers widely continue to deny legitimacy to the use of local or regional languages in various linguistic contexts across the world.

Blackledge and Creese (2010: 206) call attention to the following potential obstacle in the development of multilingual language in education policies that take into account the recent establishment of code-switching as a highly functional communicative tool. While the pedagogic value of code-switching may not be challenged by policy makers, the development of language in education policies which are in agreement with findings from applied research do not work in any 'mechanistic generalisable way' (Blackledge & Creese, 2010: 206). In other words, there is currently little transfer between descriptive sociolinguistic research documenting the value of multilingual language practices in various educational contexts and direct language planning and policy activities. Ferguson (2009: 234) argues that research into classroom code-switching must move away from a mere description of the various functions fulfilled by code-switching typically investigated in the context of ethnographic and discourse-analytic studies towards more interventionist research taking into account 'the predilection many policy makers have for research that provides evidence of outcomes, preferably quantitative evidence'.

While the investigation of classroom code-switching presented in this thesis does not manage to fully bridge the gap between descriptive sociolinguistic research

and interventionist policy development, its longitudinal focus on the interplay between patterns of language choice, language attitudes, students' participation in classroom activities and educational achievements may provide an understanding of the realities of the multilingual classroom that is more directly applicable to language planning and policy decisions than studies that simply document and qualitatively exemplify the various functions fulfilled by classroom code-switching. The combination of qualitative and quantitative research methods adopted in this study may also contribute to the generalisability of the overall findings. However, this study, in line with previous research into classroom code-switching, has not directly addressed the question of what aspects of concurrently using multiple languages in the same classroom constitute 'teachable' concepts (Blackledge & Creese, 2010: 214) that can be included in teacher training programmes and subsequently built into language in education policies. Various applied implications of the findings of this study will be discussed in section 7.4 in conjunction with an overview of potential future language in education policy models.

Due to the link between code-switching behaviour in the classroom and language planning and policy activities, Luxembourg's language in education policies must also be viewed in relation to bi- or multilingual education programmes currently in place in other linguistic contexts. The following section (7.3) will view Luxembourg's multilingual education system through a European lens and will throw light onto the fact that Luxembourg's language in education policies do not mirror current policy trends in other European countries where regional and internationally recognised languages are officially used side by side inside the educational context.

7.3 Multilingual education in Europe: Luxembourg in contrast with Scotland, Wales, Catalonia and the Basque Country

This thesis has repeatedly called attention to the conflicting relationship which continues to exist between Luxembourgish, French and German in Luxembourg's education system. Tensions between regional and internationally powerful languages constitute a common phenomenon in Europe and are not limited to Luxembourg's education system as can be observed in contexts such as Scotland (Gaelic vs. English), Wales (Welsh vs. English), Catalonia (Catalan vs. Spanish) and the Basque Country (Euskera vs. Spanish). In many ways Luxembourg emerges as an unexpected counter-example to these contexts and this section will critically evaluate Luxembourg's current language in education policies through a cross-linguistic international comparison. In Europe, two contradictory forces are currently in operation. On the one hand, extremely advanced levels of international integration, through for example the use of a common currency, have occurred under the force of the European Union. On the other hand, we can observe a rise of 'ethnolinguistic nationalism' which is shown through attempts by various ethnolinguistic groups to receive official status and protection for their languages (Tollefson, 2004: 263). Evidence of ethnolinguistic nationalism can undoubtedly be observed in Luxembourg in activities such as the official recognition of Luxembourgish as Luxembourg's national language in 1984 (2.2).

As a consequence of rising ethnolinguistic nationalism in Europe, language planning and policy activities in the twenty-first century primarily consist of efforts to maintain regional and minority languages and to promote multilingualism. In Scotland, Wales, Catalonia and the Basque Country, the struggle between regional/heritage languages (i.e. Gaelic, Welsh, Catalan, Euskera) and powerful widely used languages (i.e. English and Spanish) is particularly visible. Due to their active use of the educational domain as a tool to tackle issues related to language shift, these four contexts are interesting counter-

examples to Luxembourg where the regional/heritage language continues to be officially excluded from virtually all areas of education.

Despite the fact that Scottish Gaelic constitutes the weakest of the major Celtic languages still in use in the United Kingdom and in Ireland (Baker, 1988: 57), Gaelic medium education as well as English medium education, with Gaelic as a subject, are currently available at pre-school, primary and secondary school levels in various areas of Scotland (Smith, 2003: 136). Gaelic medium education functions as a heritage bilingual programme for native Gaelic speakers and as an immersion programme for native English speakers. In recent years, the position of Gaelic in schools has gradually been strengthening as Gaelic medium or Gaelic-English bilingual schools are slowly appearing in various locations in Scotland (Smith, 2003: 136). Only 112 Scottish pupils learned Gaelic in 1997 compared with 2,601 pupils in 2007 (BBC News Online 2009). In Scotland, education is, therefore, actively employed as a tool to prevent language shift. However, the increase in children attending some form of Gaelic education has not been able to stop the population of native Gaelic speakers dwindling. In addition, Gaelic bilingual education suffers from a lack of both qualified Gaelic-speaking teachers and suitable learning and teaching materials for all levels of education (Smith, 2003: 141). Bilingual education in Gaelic speaking areas of Scotland therefore remains limited despite some of the successes of language planning and policy activities.

The inclusion of Welsh in the curriculum in Wales, both as a language of instruction and a subject, has been more successful than the case of Gaelic in Scotland. Welsh has been increasingly recognised in education in the last few decades of the twentieth century (Jones & Martin-Jones, 2004: 54). As in the case of Gaelic in Scotland, language planners undoubtedly regard education as a particularly suitable domain for the promotion of the Welsh language. Bilingual education in Wales has clearly been successful by attracting both native Welsh speakers as well as native English speakers (Jones & Martin-Jones, 2004: 49).

However, Welsh language planners face similar problems as Gaelic language planners in Scotland. Despite an increase in enrolment figures for bilingual education programmes throughout Wales, the number of children who speak Welsh as their native language has continued to decline (Jones & Martin-Jones, 2004: 54). In the 2004 Welsh Language Use Survey, 21.7 percent of the total population aged 3 and over claimed to be able to speak Welsh, compared with 18.7 percent in 1991 (Welsh Language Board, 2004: 6). These figures show a slight increase in the number of Welsh speakers. However, in 2004 57 percent of Welsh speakers considered themselves fluent in Welsh as opposed to 61 percent in 1992. The overall increase in Welsh speakers does not prevent fluency in Welsh from decreasing. This finding is supported by the fact that the percentage of those who considered themselves fluent in Welsh also increased with age, indicating that fewer children speak Welsh as a first language. In 2004, 44 percent of Welsh speakers aged 3 to 15 claimed to be fluent Welsh speakers, compared with 72 percent of speakers aged over 65 (Welsh Language Board, 2004: 6). On a more positive note, the number of schoolchildren being taught entirely in the Welsh language has increased from 16 percent in the 1990s to 20 percent in 2009 (BBC News Online 2009).

Similar aims and outcomes of language planning and policy activities can be observed in the Basque Country and Catalonia. In both contexts, policy makers actively promote regional and heritage languages in education in order to contribute to the maintenance of linguistic diversity in the Iberian Peninsula. Both Catalan and Basque education systems are nowadays fully bilingual (Huguet, 2006: 150). Since the 1960s the use of Euskera, the heritage language of the Basque Country, has gradually increased in schools and monolingual Castilian education has been replaced by bilingual education programmes in the Basque Country (Huguet, 2006: 151). This development is due to the creation of Basque medium schools widely known as 'Ikastolas'. The Ikastolas are based on various educational models and the model which has attracted the largest numbers of children in recent years consists of a programme where all subjects, except

Castilian Language and Literature and Modern Languages, are taught through the medium of Euskera. This model contains both elements from Heritage Language Education, for native Euskera speakers, and Immersion programmes for native Spanish speakers and therefore has similarities with Gaelic medium and Welsh medium education models in the United Kingdom. Policy makers in the Basque Country face similar problems as language planners in Scotland and Wales. Despite positive educational developments, Basque remains a minority language in its own territory (Zalbide & Cenoz, 2008: 5). The biggest increase in Basque speakers has, however, taken place in the 16-24 age group between 1991 and 2001, and this positive development is often attributed to the implementation of bilingual education programmes in the Basque country (Zabile & Cenoz, 2008: 6).

Gaelic language planners in Scotland report a shortage of qualified Gaelic-speaking teachers as well as a lack of Gaelic language curriculum materials as major obstacles in the implementation of a bilingual education programme. Similarly, the shortage of Euskera-speaking teachers constitutes one of the major challenges of the educational system in the Basque Country (Zabilde & Cenoz, 2008: 11). The Basque government Department of Education, however, plays an active role in the creation, production and circulation of Euskera learning and teaching materials. In addition, the Basque authorities run in-service teacher training programmes specifically aimed at improving Basque language competence among teachers (Zabilde & Cenoz, 2008: 12-13).

In Catalonia bilingual education programmes have also been implemented in order to include the regional and heritage language at school. Following a Language Planning Act in 1983 all students in Catalonia are in contact with Catalan as a medium of instruction (Huguet, 2006: 155). Bilingual education in Catalonia bears similarities with the education systems in the Basque Country, Scotland and Wales due to its dual role of Language Heritage Education for Catalan-speaking children and Immersion education for Castilian-speaking

children (Huguet, 2006: 156). Language planners in Catalonia do not face a shortage of Catalan-speaking teachers on the same level as language planners in Wales, Scotland and the Basque Country. Huguet (2006: 154) points out that unlike Basque, Catalan (a Romance language) is linguistically close to Castilian and French. The linguistic similarity between Catalan and Castilian can explain why teachers' language proficiency in the regional or heritage language is higher than in other contexts. The development of bilingual education has therefore been remarkably successful and fast in Catalonia.

A comparison between Luxembourg's multilingual education system and the bilingual education programmes in Wales, Scotland, Catalonia and the Basque country reveals that the aims of Luxembourg's education system seem to be diametrically opposed to the aims in other European contexts. In fact, while language planners in the aforementioned contexts include regional and heritage languages in the education system, Luxembourg continues to ban its national and heritage language from most parts of the education system. One of the major challenges for language planners in the UK and in Spain remains that, despite an increase in students acquiring the heritage languages through education, numbers of speakers of these languages continue to decline outside the educational context. Luxembourgish, on the other hand, is widely spoken in daily interactions in Luxembourg by Luxembourgish nationals as well as members of various immigrant communities (4.2) but is not recognised and included at school. Hoffmann (1996: 135) claims that 'today there is no domain in which Luxembourgers meeting among themselves will not speak Lëtzebuergesch, and only Lëtzebuergesch, whether this be the Council of State, a meeting of an administrative board, or a conversation in a public bar'. Due to its high number of speakers and its extensive use in a variety of domains, Luxembourgish cannot be described as an endangered language unlike the various minority languages discussed above. However, the widespread use of Luxembourgish has so far failed to have an impact on language in education policies.

As demonstrated above, the bilingual education systems in Wales, Scotland, Catalonia and the Basque Country contain both elements of immersion (for majority language speakers) and heritage language programmes (for regional language speakers). Luxembourg's education system, on the other hand, is characterised by elements of submersion education due to the use of powerful European majority languages (German and French) as media of instruction and the exclusion of its regional/heritage language (Luxembourgish). Whereas submersion education typically disfavors children from minority groups or powerless majorities, in Luxembourg it also affects the dominant linguistic group, namely Luxembourgish native speakers. In light of the extensive use of Luxembourgish outside the educational context (4.2), it appears that language planners in Luxembourg have not taken into account language use in its wider social context in the creation and implementation of language in education policies. Recent developments in language in education policies in the Basque Country consist of taking into account the users' 'communicative needs' and the 'sociocultural conditions in which each of the languages exist in the Basque environment' (Elorza & Muño, 2008: 88-92). Zalbide and Cenoz (2008: 19) argue that 'a school does not exist in a vacuum' and that the success of bilingual education as a tool to fight language shift depends on 'the reward and sanction system operating in the vast domain, external to the school'. This perspective highlights the importance of taking into account actual language use in its wider social context and can be regarded as a warning for policy makers to refrain from implementing artificial and stark bilingual education programmes which do not satisfy the needs of their target population.

7.4 Direct applications of the research findings for language in education policies in Luxembourg

7.4.1 Complexity of multilingualism in Luxembourg

This thesis not only set out to throw further light onto the complex interplay between language attitudes, multilingual language behaviour and language planning and policy from a theoretical perspective but it also aimed to provide a comprehensive and applied understanding of Luxembourg's multilingual situation. The following discussion will critically evaluate some of the findings of this research project in relation to current language policy trends in Luxembourg and will contrast popular misconceptions about language use and attitudes in Luxembourg with quantitative evidence emerging from both the attitudinal and behavioural studies reported in this thesis. Attention will be drawn to the complexity of multilingualism in Luxembourg for students originating from different ethnic backgrounds. The longitudinal design of the ethnographic study spanning the switch of the language of instruction from German to French will also enable us to explore some of the failures and successes of the official switch of the language of instruction.

The high degree of multilingualism attributed to Luxembourg's population by the Ministry of Education (Berg & Weis, 2005: 33) has been repeatedly questioned throughout this thesis (4.2 and 6.2.1). In public discourses, multilingualism is hailed as the mother tongue of many Luxembourgish residents as neither German nor French or even Luxembourgish supposedly function as the native language for a large proportion of the population. Similarly, Weber (2009: 42) warns that Luxembourgish should not be regarded as the sole home language of Luxembourgish nationals and highlights the importance of taking into account the multilingual language practices and linguistic competences of students outside the educational context. While these claims emphasise the highly multilingual nature of Luxembourg's population, the findings emerging from this study reveal that the

spread of multilingualism in Luxembourg is extremely complex and varied and that many secondary school students primarily engage in monolingual language practices outside the educational context.

The vast majority of students who categorised themselves as Luxembourgish nationals exclusively employ Luxembourgish as a medium of communication at home and with friends and peers (4.2). Students from various immigrant communities, on the other hand, engage more extensively in multilingual language practices outside the classroom through the use of their respective heritage languages (4.2). However, they also extensively communicate through the medium of Luxembourgish with family members and particularly friends and peers. The quantification of students' self-reported language behaviour establishes Luxembourgish as the most widely spoken language outside the educational context for the vast majority of students originating from several ethnic backgrounds. The patterns of language use reported throughout this thesis, therefore, cast doubt on the high degree of multilingualism widely associated with Luxembourg's student population.

As in the case of students' patterns of language use outside the educational context and their level of involvement in multilingual language practices, we can observe differences in the language of instruction preferences of students from different ethnic backgrounds. While ethnically Luxembourgish students largely display a preference for Germanic languages of instruction, immigrant students from Romance linguistic backgrounds express a slight preference for the sole or combined use of French as a medium of instruction (4.2). However, commonalities between ethnically Luxembourgish and immigrant students can also be identified. In fact, a large proportion of students from virtually all ethnic backgrounds express a desire for the recognition of Luxembourgish (either on its own or in combination with other languages) as a medium of instruction. This increasing support for Luxembourgish can also be observed in the patterns of language choice for the completion of the questionnaire (4.2), the extensive self-

reported use of Luxembourgish in classroom interactions (4.2) and the actual language behaviour of the students' observed in the context of the ethnographic study (6.2.2). However, all of these findings which lend increasing support to the recognition of Luxembourgish in the education system must be viewed with caution and be interpreted in relation to students' wider language attitudes.

On average students express fairly negative instrumental attitudes towards Luxembourgish (4.3.5) and their attitudes towards the importance of learning Luxembourgish decline in positivity when Luxembourgish is directly compared with French and German (4.3.4). These conflicting findings draw attention to the fact that tensions (in terms of linguistic prestige) continue to exist between Luxembourg's national language, Luxembourgish, and the two major European languages, French and German. While the existence of students' positive attitudes towards French and German may weaken some of the evidence supporting the recognition of Luxembourgish in the educational system, the widespread preference for the use of Luxembourgish as a medium of instruction potentially reflects students' desire to increase the instrumental value of Luxembourgish in the future. Education has long been shown to function as a domain in which the status of a language can be considerably improved (Skutnabb-Kangas, 2000: 500; Ferguson, 2006: 33). In the classroom, students are regularly exposed to the argument that a high degree of exposure to and the successful acquisition of German and particularly French constitute prerequisites for a successful academic and professional career in Luxembourg (personal observation from ethnographic fieldwork). Consequently, it is reasonable to assume that students are aware of the role of the education system in improving the status and instrumental nature of a language. A potential awareness of this link may help to explain the reasons for why students simultaneously express positive instrumental attitudes towards French (and not Luxembourgish) and a desire for the recognition of Luxembourgish in the education system. On the other hand, students' positive attitudes towards the usefulness of French may provide support for the argument that the introduction of French as a language of instruction may have positive

long-term benefits for the students as it may help them to successfully acquire French. The shortcomings associated with this stance will be explored in more detail in section 7.4.2.

7.4.2 The consequences of the introduction of French as a medium of instruction

In addition to revealing the complex nature of Luxembourg's multilingualism, this thesis set out to investigate the effects of the official switch of the language of instruction from German to French after the first three years of classical secondary education. The analysis focusing on teachers' multilingual language practices inside the classroom revealed that Luxembourg's official medium of instruction policies are not consistently put into practice by all teachers (5.4). In fact, the strong behavioural discrepancies between high, middle and low tolerance teachers demonstrate that acquisition planning has largely failed in Luxembourg's education system.

The analysis of students and teachers' language behaviour during the first year of French medium education showed that students participated most extensively in lessons taught by high tolerance teachers who considerably deviated from official language of instruction policies by frequently code-switching into Luxembourgish. Interestingly, high tolerance teachers were also shown to code-switch into Luxembourgish primarily for curriculum access functions such as clarifying lesson content. The official switch of the language of instruction has, therefore, failed in two ways. Firstly, teachers frequently disregard the official imposition of French by code-switching into Luxembourgish indicating that the authorities have failed to fully implement official medium of instruction policies. Secondly, teachers' use of Luxembourgish, particularly when fulfilling curriculum access functions (as in the case of high tolerance teachers), appears to have a positive effect on students' level of participation in learning activities (6.3).

Further negative outcomes of the switch of the language of instruction from German to French were revealed during the longitudinal analysis of students' attitudes towards French as a language of instruction and their self-assessed French language competence (6.4). Both language attitudes and perceived language competence of students' participating in the ethnographic study largely declined throughout the first year of French medium education. In addition, no apparent improvements in students' French language grades could be identified. As previously outlined, students' attitudes towards French as a language of instruction may worsen over time as they fail to see the benefits (i.e. increase in French language competence) of the introduction of French as a language of instruction (6.7). These negative attitudes towards French as a language of instruction must be viewed in conjunction with the largely positive attitudes towards the usefulness of French reported by students who participated in the questionnaire study (4.3.7.). In light of these positive instrumental attitudes towards French, it could be argued that the introduction of French as a medium of instruction may have long-term benefits for students as it can contribute to the successful acquisition of French. In weak forms of bi- or multilingual education, majority languages (e.g. French in the case of Luxembourg) are often employed as media of instruction instead of regional or heritage languages due to a belief that maximum exposure automatically leads to faster and more successful acquisition of these languages (Skutnabb-Kangas, 2000: 575). Skutnabb-Kangas (2000: 576), however, points out that this assumption constitutes a major fallacy in many language in education policies and that a combination of mother tongue medium education and effective teaching of majority languages offers a more beneficial learning environment for students in multilingual contexts.

Largely negative effects of the switch of the language of instruction on students' academic grades were also revealed in the context of the ethnographic study. Students with low self-assessed French language competence and negative attitudes towards the use of French as a language of instruction were most

strongly affected. As previously discussed, the students sampled for the ethnographic study are academically stronger than average. The negative effect of the switch of the language of instruction on the sampled students' educational achievements therefore is particularly striking as they represent an academic elite among Luxembourg's secondary school students (6.3). In fact, negative effects on educational attainment may be more severe for students who are characterised as underachievers in Luxembourg's secondary school system.

7.4.3 Considerations for future language in education policies in Luxembourg

In light of the complex nature of students' language attitudes and language behaviour as well as the various limitations of current medium of instruction policies, this chapter will now turn towards an overview of different types of education models that can contribute to future debates and empirical research about language in education policies in Luxembourg. Attention will be paid to the degree in which the various types of education could help to realign official medium of instruction policies with students' language attitudes and actual language use inside and outside the educational sphere. The following three types of education will be reviewed in this chapter:

- (1) Luxembourgish medium education with language subject teaching in French, German and Luxembourgish.
- (2) concurrent approach to multilingual education actively encouraging classroom code-switching
- (3) two-track system allowing students to choose between German-medium or French-medium education proposed by Weber (2009)

The first proposed model could consist of the official recognition of Luxembourgish as a medium of instruction for all non-language subjects in secondary schools and could be introduced in combination with extensive language subject teaching in French and German (1). Luxembourgish is the

preferred medium of instruction for the majority of students participating in this study. Luxembourgish medium education would therefore not only largely mirror students' language of instruction preferences but it would also take into account language use in its wider social context in Luxembourg as Luxembourgish emerged as the most widely spoken language outside the educational context in students' responses regarding their language use at home and with friends. The quantitative analysis of students' code choice and their degree of participation during classroom activities also revealed that students engaged more extensively in learning activities if they were allowed to speak Luxembourgish and when they were taught by teachers who frequently code-switched into Luxembourgish to facilitate access to curriculum content (6.3).

While various findings presented throughout this thesis lend support to the use of Luxembourgish as a language of instruction, the potential introduction of Luxembourgish medium education is further complicated by the following factors. First of all, the Ministry of Education is currently faced by a lack of Luxembourgish teaching and learning materials. While various dictionaries and grammars of Luxembourgish are already available, current textbooks are written in either French or German. Furthermore, all secondary school teachers currently in post received their higher education qualifications outside of Luxembourg at mostly French, Belgian or German universities and are insufficiently qualified in standard orthographical and grammatical conventions of Luxembourgish. Consequently, revised teacher training programmes and the development of Luxembourgish learning and teaching materials will be crucial prerequisites for the introduction of Luxembourgish medium education in Luxembourg.

While Luxembourgish medium education could enhance compatibility with students' language attitudes and general language behaviour in Luxembourg, this type of language policy clashes with views regarding the role of Luxembourgish, French and German in secondary schools recently expressed by Luxembourg's Ministry of Education. In 2007, the Ministry of Education published a document

entitled *Réajustement de l'enseignement des langues Plan d'action 2007-2009* outlining 66 measures for the improvement of language in education policies and providing details regarding the status and role of various languages in Luxembourg's education system. In relation to the status of Luxembourgish in the education system the authorities claim the following:

Il est clair que le luxembourgeois joue un rôle important dans la vie sociale du pays. Actuellement la langue luxembourgeoise ne pose de façon directe aucun problème scolaire. Il faut donc veiller à ce qu'elle n'en devienne pas.

It is clear that Luxembourgish plays an important role in Luxembourg's society. Currently, Luxembourgish does not pose any direct problems in the education system. We, therefore, have to ensure that it does not become a problem. (Ministry of Education, 2007: 51)

This statement depicts the contradictory stance of the authorities as they simultaneously acknowledge the importance of Luxembourgish and express a reluctance to increase its use and status in the education system due to a fear that this may cause problems. Similarly, in an interview carried out by the author in 2006 (during a pilot study for this project), Luxembourg's Minister of Education, Mady Delvaux-Stehres, describes the continuing tensions between Luxembourgish, French and German and indicates that a difference in status between the three officially recognised languages continues to shape educational policies.

Beim Lëtzebuergeschen schingt et mir evident dass een et muss verstoen a schwätzen net onbedingt korrekt schreiwe kënnen an do soen ech all Kand wat duerch de Lëtzeboier Schoulsystem geet muss op manst Däitsch oder Franséisch gutt kënnen [...] well bon dat sinn awer lo déi Sproochen mat denen ee säi Liewe muss maachen.

In the case of Luxembourgish it seems to be clear to me that it is important to be able to understand and speak it without necessarily having to be able to write it correctly. And then I would say that every child going through Luxembourg's education system must at least have a good command of German or French [...] because these are after all the languages necessary to get through life.

Luxembourgish clearly remains restricted to the spoken domain whereas French and German are described as languages which fulfil instrumental functions. No change in the minds of the policy makers can therefore be noticed as French and German continue to play a more important role than Luxembourgish even after its official recognition in 1984. The rationale underlying the current medium of instruction policies to provide students with an adequate competence in French and German to enable them to enrol in university education abroad is reflected in the Minister's explanation. The Minister of Education stresses the challenging consequences of Luxembourg's multilingual situation for its education system when expressing her doubts regarding the inclusion of Luxembourgish in the curriculum.

Mir sinn schon ee Land wat immens vill Stonnen also vill Zäit vun der Schoulzäit op d'Sprooch konzentrieren mat dem Resultat dass Sciencen vernoléisseg ginn, net genuch Sport an der Schoul ass. Wa mer lo nach soen mir mussen nach vergréisseren d'Offer u Sproochen also dann dat ass d'Schwieregkeet.

We are a country that dedicates many hours, a large proportion of the school hours, to languages with the result that sciences are neglected and we do not have enough sport at school. If we now claim that we have to increase the offer of language teaching, that will be very difficult.

The continuing exclusion of Luxembourgish from the education system is not

necessarily motivated by negative feelings towards Luxembourgish itself but rather by a reluctance to deflect focus from the two major European languages, French and German, which have dominated Luxembourg's education system for several centuries. This dilemma can provide an explanation for the lack of support for Luxembourgish despite the authorities' acknowledgement of the importance of Luxembourgish and the extreme marginalisation of the national language in the education system. In addition to resting on the development of Luxembourgish teaching materials and the language training of secondary school teachers, the potential introduction of Luxembourgish medium education, therefore, relies on a change in focus of language in education policy planners in Luxembourg.

An alternative future policy reform could consist of the official implementation of a concurrent multilingual education system in which French, German and Luxembourgish could be used side by side in classroom interactions (2). The pragmatic analysis of classroom code-switching practices presented in this thesis has drawn attention to the fact that students' and teachers' use of multiple languages is highly functional and often facilitates access to curriculum content as well as the management of classroom discourse and student-teacher relationships. Higher levels of student involvement in classroom activities were also revealed in lessons with extensive teacher-initiated and student-initiated code-switching. Numerous studies from diverse linguistic contexts have described classroom code-switching as a multilingual communicative strategy as opposed to a communicative deficit (2.4.7). Concurrent approaches to bilingual education have been praised for their ability to take into account and largely mirror language use in its wider social context (De Mejía, 2002: 76; Jacobson, 1990: 6) (see 2.5.2 for further details). As Luxembourg's students and teachers are regularly confronted with the use of Luxembourgish, French and German outside the educational context, the concurrent use of these three languages inside the classroom would help to align medium of instruction policies with language use outside the educational context where language choice is rarely controlled by a stringent compartmentalisation of languages according to place, time, person or topic

(Jacobson, 1990: 6).

While Luxembourg's language in education policies are currently based on a separation approach to multilingual education clearly assigning different media of instruction to different stages in schooling, the potential implementation of a concurrent system (2) may be more aligned with the authorities' objectives than the introduction of Luxembourgish medium education (1). As previously outlined, official Ministry discourses are filled with an emphasis on multilingualism, as is revealed in the following statement given by the Minister of Education during the interview attempting to tap into official attitudes towards multilingual education policies:

Eise Schoulsystem an do hale mer dru fest ass plurilingue; d'Äntwert ass net eng Sprooch oder di aner.

Our education system is multilingual; the answer to our problem does not consist of choosing one language over another.

The abovementioned benefits of a concurrent multilingual education system are, however, counterbalanced by the fact that the majority of research focusing on classroom code-switching has so far failed to move beyond a mere description of the various functions fulfilled by code-switching practices (7.2.2). In other words, the numerous positive examples of teacher-initiated classroom code-switching documented in applied sociolinguistic research need to be converted into pedagogical guidelines that can be included in official policies as well as taught in teacher training programmes. The future implementation of a concurrent multilingual education system in Luxembourg is, therefore, dependent on further research attempting to reveal 'teachable' aspects of concurrently using multiple languages in the same classroom (Blackledge & Creese, 2010: 214) (see 7.1 for further details). In addition, language in education policy makers in Luxembourg would have to make difficult decisions about whether to implement multilingual

policies encouraging the concurrent use of all three languages (i.e. French, German and Luxembourgish) or various bilingual options such as the concurrent use of French and Luxembourgish or German and Luxembourgish or French and German. As in the case of a potential policy reform in favour of Luxembourgish medium education, the implementation of a concurrent multilingual education system is dependent on myriad factors.

Finally, the abovementioned options for policy reform will briefly be contrasted with a proposal by Weber (2009: 66) for a two-track education system allowing students to choose between a German medium and a French medium option. Weber (2009: 66) argues for a move towards ‘educational equity’ through the implementation of a two-track system which would ensure that students from Romance, and particularly Portuguese, immigrant backgrounds are not forced through a German literacy programme at primary school level but are given the opportunity to receive their education through the medium of French. This two-track system is proposed in relation to primary education and no concrete details regarding the parallel use of German medium and French medium models at secondary school level are provided. Weber’s proposal stems from findings of an ethnographic study of primary school pupils from Portuguese immigrant backgrounds and is heavily based on the assumption that ethnically Portuguese children show clear preferences for the use of French as a medium of instruction. However, the findings from the large-scale attitude study reported in this thesis reveal that only 14 percent of Portuguese secondary school students express a desire to be taught in French.

In reaction to frequently voiced concerns in Luxembourg, Weber (2009: 66) claims that a two-track system would not necessarily lead to the enrolment of the majority of immigrant children in French medium education and the enrolment of their ethnically Luxembourgish peers in German medium education. Social cohesion in Luxembourg would not be threatened ‘since some “Luxembourgish” children [...] might well choose the French-language literacy programme, and

some ‘foreign’ children [...] might opt for the German-language one’ (Weber, 2009: 66). The complex nature of language attitudes in Luxembourg (Chapter 4) renders the prediction of enrolment patterns for students from different ethnic backgrounds extremely difficult. The extremely positive instrumental attitudes towards French found among ethnically Luxembourgish students could potentially lead to a high proportion of Luxembourgish students enrolling in French medium education despite the fact that they display a predilection for Germanic languages of instruction. As French was officially awarded the status of legislative language in 1984 (and largely dominates the administrative domain in Luxembourg (Fehlen, 2002: 83), it carries considerably more prestige than German. Consequently, ethnically Luxembourgish students may enrol in French medium education due to a perceived need to successfully acquire French despite the linguistic challenges they may encounter. Most importantly, neither French nor German medium education programmes would align with ethnically Luxembourgish students’ language of instruction preferences as only 3.4 percent and 6.3 percent of Luxembourgish students sampled for this study express a desire to be taught in French and German respectively.

To sum up, the three policy models outlined above have several advantages and disadvantages and the design and implementation of language in education policies which could create a positive learning environment for students from all ethnic backgrounds constitutes an enormous challenge for policy makers in Luxembourg. The findings of this study establish Luxembourg’s secondary school students as a linguistically diverse group of speakers who engage in multilingual language practices to varying degrees. Throughout this thesis attention has been drawn to some of the shortcomings of current medium of instruction policies and this chapter has shown how applied sociolinguistic research can inform language planning and policy decisions. No concrete proposal for policy reform is offered in this thesis, as language in education policies cannot be reformed solely in relation to research focusing on language attitudes and multilingual classroom practices. Many different factors (e.g. political, economic etc.) play important

roles in the design of successful language in education policies. However, the findings of this thesis provide invaluable information for policy reform in Luxembourg if they are used in conjunction with findings from other research projects (i.e. educational or economic in nature) and the applied insights of policy makers in Luxembourg.

8 Conclusions

This thesis has investigated language attitudes and code-switching behaviour in Luxembourg's multilingual education system. The overall objectives of the study were to further our theoretical understanding of the role of socio-psychological and socio-political factors in the production of language (objective 1) and to gain an understanding of language use and language attitudes in Luxembourg's education system that can be directly applied to language in education policies (objective 2) (1.2). In order to fulfil the objectives, the thesis set out to answer the following research questions concerning language attitudes, multilingual language behaviour and language in education policies in Luxembourg:

- (1) To what extent are Luxembourg's secondary school students multilingual?
- (2) What are students' attitudes towards the various languages used in Luxembourg?
- (3) Are language attitudes related to language behaviour?
- (4) Is students' language behaviour inside the classroom affected by their perceived competence in the official medium of instruction?
- (5) To what extent do students and teachers adhere to Luxembourg's official medium of instruction policies?
- (6) What functions are fulfilled by student-initiated and teacher-initiated classroom code-switching?
- (7) Do the official medium of instruction policies have an impact on educational achievements in Luxembourg?

In addressing the research questions, the various analyses presented in the thesis have provided empirical evidence enabling us to arrive at the following conclusions and directions for future research. First of all, this study has allowed us to gain further insights into the complex relationship between language attitudes and language behaviour and the methodological challenges underlying

interdisciplinary research. Language attitudes were shown to play a significant role in speakers' language choice in both the large-scale questionnaire study and the ethnographic study of classroom behaviour (Research question 3). On average, students who opted to fill in a Luxembourgish questionnaire (in the context of the large-scale attitude study) expressed more positive affective, instrumental and integrative attitudes towards Luxembourgish and attributed greater importance to learning Luxembourgish in an educational context than their peers who completed French and German questionnaires. A link between attitudes and behaviour was also established in the ethnographic study where students holding negative attitudes towards French as a language of instruction were shown to speak less French than their peers who expressed positive attitudes.

However, attitudes emerged as only one of many factors that influence language choice in multilingual contexts. Other factors such as students' self-assessed French language competence were also shown to significantly shape a speaker's language behaviour (Research question 4). In fact, the ethnographic study demonstrated that the higher students rate their French language competence, the more French they speak and the more extensively they participate in classroom activities (6.3). In addition, the pragmatic analysis of teacher-initiated and student-initiated code-switching revealed that language choice inside the classroom is heavily influenced by the context in which it appears as students and teachers code-switch in order to achieve various context-bound goals such as clarifying curriculum content and/or managing classroom discourse and interpersonal relations. Finally, students' language behaviour was also shown to be linked to their teachers' level of tolerance towards classroom code-switching. The analysis of naturally-occurring classroom interactions revealed that students not only speak considerably more Luxembourgish in lessons taught by high tolerance teachers but that they also engage more extensively in classroom interactions.

By narrowing the focus of inquiry of the thesis to the educational context, it was possible to throw light onto the ways in which socio-psychological and pragmatic factors shape multilingual language behaviour in a domain that is frequently chosen by language planners and policy makers for status planning activities. The findings of the study contribute to a growing body of evidence indicating that classroom code-switching largely functions as a communicative asset as opposed to a communicative deficit. As noted above, both students and teachers engage in classroom code-switching in order to fulfil various functions such as gaining or providing access to the curriculum (i.e. learning/teaching strategy), managing classroom discourse and negotiating interpersonal relations (Research question 6). However, in the case of Luxembourg classroom code-switching occurs in contrast with official medium of instruction policies despite its highly functional nature. In fact, students and teachers were shown to deviate considerably from official medium of instruction policies by extensively employing Luxembourgish inside the classroom (Research question 5). These discrepancies between the realities of the classroom and official medium of instruction policies gain significance when viewed in light of the extremely high fail rates associated with Luxembourg's education system. The longitudinal focus on students' language attitudes, classroom behaviour and academic development allows us to conclude that current policies seem to have largely negative impacts on students' educational attainment (Research question 7).

As the linguistic situation in Luxembourg is largely under-researched (Fehlen, 2002: 81), this study has been able to fill a gap in knowledge concerning language attitudes and patterns of language use among Luxembourg's ethnically and linguistically diverse population (Research question 2). Through a combination of qualitative and quantitative research methods, the findings presented in the thesis provide both detailed examples (i.e. qualitative evidence) and overall patterns of multilingual language practices and language attitudes (i.e. quantitative evidence). Due to the study's educational focus, several of the findings can be directly

applied to language planning and policy decisions in Luxembourg and should be taken into account by governmental policy makers in the future.

Although the role of socio-psychological and socio-pragmatic factors in language production in educational settings has been addressed in this thesis, this interdisciplinary aspect of sociolinguistic research deserves further and more detailed attention. In particular, future research should attempt to further bridge the gap between descriptive sociolinguistic research documenting language attitudes and the functional nature of classroom code-switching practices on the one hand and interventionist policy development on the other hand. While this thesis has provided an understanding of the realities of the classroom encompassing both an investigation of language attitudes and qualitative/quantitative assessments of classroom discourse, future research should endeavour to complement these findings with a more detailed investigation of the attitudes of policy makers and teachers. For example, the various functions of classroom code-switching identified in this thesis could be evaluated further in collaboration with teachers and policy makers in order to reveal which aspects of classroom code-switching could be successfully integrated in teacher training programmes. In terms of language attitude research, the Implicit Association Test (3.4.3) could be extended in order to enhance our understanding of the connection between implicit and explicit language attitudes. Due to the crucial role of language attitudes in the successful implementation of language policies (repeatedly discussed in this thesis), a more comprehensive understanding of both explicit and implicit language attitudes could ultimately contribute to the design of successful language in education policies in complex multilingual educational contexts.

The various findings presented in this thesis substantiate the argument put forward by the Council of Europe that Luxembourg's current language in education policies are unable to satisfy the needs of the population as a whole and that educational attainment is heavily influenced by the students' mastery of the

various languages of instruction (Council of Europe, 2006: 17) (2.2.3). While the large-scale attitude study provides a comprehensive understanding of patterns of language use and language attitudes among Luxembourg's secondary school population, the findings from the ethnographic study have allowed for insights to be gained into the realities of Luxembourg's multilingual classrooms. The discussion of the various options for policy reform (7.4.3) has shown how the results reported in this thesis can provide valuable input for the development of future language in education policies that are in agreement with the language attitudes of the target population and that reflect language use in Luxembourg's wider social context.

APPENDIX A: Questionnaires

Appendix A includes English translations of the French, German and Luxembourgish questionnaires that were employed for the investigation of language attitudes among students and teachers in Luxembourg. All students filled in the same questionnaire. However, the questions regarding the transition year (Section D) are different for students who have already undergone the switch of the language of instruction than for students who are still being taught through German at the time of data collection. Questionnaires for students enrolled in technical schools do not include questions regarding the change of the language of instruction. The questionnaires for the teachers differ only in the wording of certain questions.

English translations of the following questionnaires are included in this appendix:

- Questionnaire A:** Classical secondary school students (pre-medium of instruction change)
- Questionnaire B:** Classical secondary school students (post-medium of instruction change)
- Questionnaire C:** Technical secondary school students
- Questionnaire D:** Teachers

Questionnaire A

LANGUAGES IN LUXEMBOURG

A. Language use

1. Which language(s) can you speak?

2. Which language(s) do you find easiest to speak?

3. Which language(s) do you speak at home?

4. Which language(s) do you speak with your friends?

5. Which language(s) would you like to speak at school during school lessons?

6. *For the following questions, please indicate which language you speak in the following classroom situations by marking the line.*

For example: Always-----|-----Never

At school:

If the language of instruction is German, do you speak German

Always-----Never

If the language of instruction is French, do you speak French

Always-----Never

During school lessons, do you speak Luxembourgish

Always-----Never

B. Language learning

*In this section, please indicate how you experienced learning to **understand**, **speak** and **write** the following languages. Please show how easy or difficult you found learning the languages by marking the line anywhere between 'difficult' and 'easy' for each statement.*

For example: Difficult-----|-----Easy

Understanding (when listening)

I found learning to understand ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Understanding (when reading)

I found learning to understand ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Speaking

I found learning to speak ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Writing

I found learning to write ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

C. Language ability

For the following statements, please indicate how well or badly you can speak the following languages by marking the line.

For example: Badly-----|-----Well

- | | |
|-----------------------------------|----------------|
| 1. I can speak Luxembourgish | Badly-----Well |
| 2. I can write Luxembourgish | Badly-----Well |
| 3. I can understand Luxembourgish | Badly-----Well |
| 4. I can speak French | Badly-----Well |
| 5. I can write French | Badly-----Well |
| 6. I can understand French | Badly-----Well |
| 7. I can speak German | Badly-----Well |
| 8. I can write German | Badly-----Well |
| 9. I can understand German | Badly-----Well |

D. Transition year

Please indicate your level of agreement/disagreement with the following statements by marking the line anywhere between 'Disagree' and 'Agree'.

- I am worried about the language of instruction changing from German to French next year.

I disagree-----I agree

- I am looking forward to being taught through French rather than German.

I disagree-----I agree

- I think that my grades will become worse in non-language subjects
For example: Biology, Geography, History ...

I disagree-----I agree

- I think that my grades will become better in French because I will use French a lot more

I disagree-----I agree

E. Here are some things people have said about the language situation in Luxembourg. What do you think? Do you agree or do you disagree?

Please indicate your level of agreement/disagreement with the following statements by marking the line anywhere between 'Disagree' and 'Agree'.

- **'Teaching subjects through foreign languages of instruction helps learning foreign languages'**

I disagree-----I agree

- **'Teachers should allow students to speak different languages during the same lesson'**

I disagree-----I agree

- **'Too much time is dedicated to language teaching in Luxembourgish schools'**

I disagree-----I agree

- **'The current education system does not guarantee the equality of chances for all students from different backgrounds'**

For example: immigrants

I disagree-----I agree

- **'Teachers should allow students to speak different languages during the same school lesson'**

I disagree-----I agree

- **'One single language of instruction must be prescribed for every subject'**

I disagree-----I agree

- **'Teaching and learning materials in more than one language help students with differing language abilities'**

For example: textbooks written in French and German OR French and Luxembourgish ...

I disagree-----I agree

- **'Learning foreign languages such as French and German is more important than properly learning Luxembourgish at school'**

I disagree-----I agree

- **'School subjects such as history, biology, geography are made too difficult by the use of a foreign language of instruction'**

I disagree-----I agree

- **'Luxembourgish should be taught properly at school as a major subject'**

For example: Luxembourgish should be as important as French or German

I disagree-----I agree

- **'Speaking Luxembourgish is not enough to get by in Luxembourg'**

I disagree-----I agree

- **'In Luxembourg you must speak at least French'**

I disagree-----I agree

- **'Immigrants can integrate better if they can speak Luxembourgish'**

I disagree-----I agree

▪ **'French is an important language in Luxembourg because it builds a bridge between Luxembourgish people and immigrants'**

I disagree-----I agree

▪ **'It would be sad if Luxembourgish disappeared in the future'**

I disagree-----I agree

▪ **'People can easily get by in Luxembourg without knowing any Luxembourgish'**

I disagree-----I agree

▪ **'Luxembourg will lose its identity if we lose the Luxembourgish language'**

I disagree-----I agree

▪ **'It is easier to find a job if you speak French rather than any other language'**

I disagree-----I agree

▪ **'I enjoy speaking many different languages in Luxembourg'**

I disagree-----I agree

▪ **'Everyone should be able to write Luxembourgish'**

I disagree-----I agree

▪ **'More efforts need to be made by the government to make immigrants learn Luxembourgish so that they can integrate better'**

I disagree-----I agree

▪ **'Immigrants need to make more efforts to learn Luxembourgish so that they can integrate better'**

I disagree-----I agree

▪ **'Portuguese is becoming more and more important in Luxembourg'**

I disagree-----I agree

▪ **'Luxembourgish is the most important language in Luxembourg because it is the language of the country'**

I disagree-----I agree

About yourself

1. Are you male or female?

Male
Female

2. What is your age?

years

3. What is your nationality?

4. What is your mother's nationality?

5. What is your father's nationality?

6. What town or village do you live in?

7. What is your father's job

8. What is your mother's job?

9. What would you like to do when you finish school? *Please choose one of the following options by ticking the appropriate box.*

-Start working in Luxembourg

-Start working abroad

Please specify country: _____

-Go to university in Luxembourg

-Go to university abroad

Please specify country: _____

Other

Please specify: _____

Questionnaire B

LANGUAGES IN LUXEMBOURG

A. Language use

1. Which language(s) can you speak?

2. Which language(s) do you find easiest to speak?

3. Which language(s) do you speak at home?

4. Which language(s) do you speak with your friends?

5. Which language(s) would you like to speak at school during school lessons?

7. *For the following questions, please indicate which language you speak in the following classroom situations by marking the line.*

For example: Always-----|-----Never

At school:

If the language of instruction is German, do you speak German

Always-----Never

If the language of instruction is French, do you speak French

Always-----Never

During school lessons, do you speak Luxembourgish

Always-----Never

B. Language learning

In this section, please indicate how you experienced learning to **understand**, **speak** and **write** the following languages. Please show how easy or difficult you found learning the languages by marking the line anywhere between 'difficult' and 'easy' for each statement.

For example: Difficult-----|-----Easy

Understanding (when listening)

I found learning to understand ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Understanding (when reading)

I found learning to understand ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Speaking

I found learning to speak ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Writing

I found learning to write

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

C. Language ability

For the following statements, please indicate how well or badly you can speak the following languages by marking the line.

For example: Badly-----|-----Well

1. I can speak Luxembourgish Badly-----Well
2. I can write Luxembourgish Badly-----Well
3. I can understand Luxembourgish Badly-----Well
4. I can speak French Badly-----Well
5. I can write French Badly-----Well
6. I can understand French Badly-----Well
7. I can speak German Badly-----Well
8. I can write German Badly-----Well
9. I can understand German Badly-----Well

D. Transition year

Please indicate your level of agreement/disagreement with the following statements by marking the line anywhere between 'Disagree' and 'Agree'.

- The change of the language of instruction from German to French has been difficult for me

I disagree-----I agree

- My French language abilities have improved since the change of the language of instruction from German to French

I disagree-----I agree

- Since the change of the language of instruction from German to French my grades have become worse in non-language subjects
For example: Biology, Geography, History ...

I disagree-----I agree

- Since the change of the language of instruction from German to French my grades have become better in French
For example: Biology, Geography, History ...

I disagree-----I agree

E. Here are some things people have said about the language situation in Luxembourg. What do you think? Do you agree or do you disagree?

Please indicate your level of agreement/disagreement with the following statements by marking the line anywhere between 'Disagree' and 'Agree'.

- **'Teaching subjects through foreign languages of instruction helps learning foreign languages'**

I disagree-----I agree

- **'Teachers should allow students to speak different languages during the same lesson'**

I disagree-----I agree

- **'Too much time is dedicated to language teaching in Luxembourgish schools'**

I disagree-----I agree

▪ **'The current education system does not guarantee the equality of chances for all students from different backgrounds'**

For example: immigrants

I disagree-----I agree

▪ **'Teachers should allow students to speak different languages during the same school lesson'**

I disagree-----I agree

▪ **'One single language of instruction must be prescribed for every subject'**

I disagree-----I agree

▪ **'Teaching and learning materials in more than one language help students with differing language abilities'**

For example: textbooks written in French and German OR French and Luxembourgish ...

I disagree-----I agree

▪ **'Learning foreign languages such as French and German is more important than properly learning Luxembourgish at school'**

I disagree-----I agree

▪ **'School subjects such as history, biology, geography are made too difficult by the use of a foreign language of instruction'**

I disagree-----I agree

▪ **'Luxembourgish should be taught properly at school as a major subject'**

For example: Luxembourgish should be as important as French or German

I disagree-----I agree

▪ **'Speaking Luxembourgish is not enough to get by in Luxembourg'**

I disagree-----I agree

▪ **'In Luxembourg you must speak at least French'**

I disagree-----I agree

▪ **'Immigrants can integrate better if they can speak Luxembourgish'**

I disagree-----I agree

▪ **'French is an important language in Luxembourg because it builds a bridge between Luxembourgish people and immigrants'**

I disagree-----I agree

▪ **'It would be sad if Luxembourgish disappeared in the future'**

I disagree-----I agree

▪ **'People can easily get by in Luxembourg without knowing any Luxembourgish'**

I disagree-----I agree

▪ **'Luxembourg will lose its identity if we lose the Luxembourgish language'**

I disagree-----I agree

▪ **'It is easier to find a job if you speak French rather than any other language'**

I disagree-----I agree

▪ **'I enjoy speaking many different languages in Luxembourg'**

I disagree-----I agree

▪ **'Everyone should be able to write Luxembourgish'**

I disagree-----I agree

▪ **'More efforts need to be made by the government to make immigrants learn Luxembourgish so that they can integrate better'**

I disagree-----I agree

▪ **'Immigrants need to make more efforts to learn Luxembourgish so that they can integrate better'**

I disagree-----I agree

▪ **'Portuguese is becoming more and more important in Luxembourg'**

I disagree-----I agree

▪ Luxembourgish is the most important language in Luxembourg because it is the language of the country

I disagree-----I agree

About yourself

1. Are you male or female?

Male
Female

2. What is your age?

years

3. What is your nationality?

4. What is your mother's nationality?

5. What is your father's nationality?

6. What town or village do you live in?

7. What is your father's job

8. What is your mother's job?

9. What would you like to do when you finish school? Please choose one of the following options by ticking the appropriate box.

-Start working in Luxembourg

-Start working abroad

Please specify country: _____

-Go to university in Luxembourg

-Go to university abroad

Please specify country: _____

Other

Please specify: _____

Questionnaire C

LANGUAGES IN LUXEMBOURG

A. Language use

1. Which language(s) can you speak?

2. Which language(s) do you find easiest to speak?

3. Which language(s) do you speak at home?

4. Which language(s) do you speak with your friends?

5. Which language(s) would you like to speak at school during school lessons?

8. *For the following questions, please indicate which language you speak in the following classroom situations by marking the line.*

For example: Always-----+-----Never

At school:

If the language of instruction is German, do you speak German

Always-----Never

If the language of instruction is French, do you speak French

Always-----Never

During school lessons, do you speak Luxembourgish

Always-----Never

B. Language learning

*In this section, please indicate how you experienced learning to **understand, speak and write** the following languages. Please show how easy or difficult you found learning the languages by marking the line anywhere between 'difficult' and 'easy' for each statement.*

For example: Difficult-----|-----Easy

Understanding (when listening)

I found learning to understand ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Understanding (when reading)

I found learning to understand ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Speaking

I found learning to speak ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Writing

I found learning to write

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

C. Language ability

For the following statements, please indicate how well or badly you can speak the following languages by marking the line.

For example: Badly-----|-----Well

- | | |
|-----------------------------------|----------------|
| 1. I can speak Luxembourgish | Badly-----Well |
| 2. I can write Luxembourgish | Badly-----Well |
| 3. I can understand Luxembourgish | Badly-----Well |
| 4. I can speak French | Badly-----Well |
| 5. I can write French | Badly-----Well |
| 6. I can understand French | Badly-----Well |
| 7. I can speak German | Badly-----Well |
| 8. I can write German | Badly-----Well |
| 9. I can understand German | Badly-----Well |

D. Here are some things people have said about the language situation in Luxembourg. What do you think? Do you agree or do you disagree?

Please indicate your level of agreement/disagreement with the following statements by marking the line anywhere between 'Disagree' and 'Agree'.

- **'Teaching subjects through foreign languages of instruction helps learning foreign languages'**

I disagree-----I agree

- **'Teachers should allow students to speak different languages during the same lesson'**

I disagree-----I agree

- **'Too much time is dedicated to language teaching in Luxembourgish schools'**

I disagree-----I agree

- **'The current education system does not guarantee the equality of chances for all students from different backgrounds'**

For example: immigrants

I disagree-----I agree

- **'Teachers should allow students to speak different languages during the same school lesson'**

I disagree-----I agree

- **'One single language of instruction must be prescribed for every subject'**

I disagree-----I agree

- **'Teaching and learning materials in more than one language help students with differing language abilities'**

For example: textbooks written in French and German OR French and Luxembourgish ...

I disagree-----I agree

- **'Learning foreign languages such as French and German is more important than properly learning Luxembourgish at school'**

I disagree-----I agree

▪ **'School subjects such as history, biology, geography are made too difficult by the use of a foreign language of instruction'**

I disagree-----I agree

▪ **'Luxembourgish should be taught properly at school as a major subject'**

For example: Luxembourgish should be as important as French or German

I disagree-----I agree

▪ **'Speaking Luxembourgish is not enough to get by in Luxembourg'**

I disagree-----I agree

▪ **'In Luxembourg you must speak at least French'**

I disagree-----I agree

▪ **'Immigrants can integrate better if they can speak Luxembourgish'**

I disagree-----I agree

▪ **'French is an important language in Luxembourg because it builds a bridge between Luxembourgish people and immigrants'**

I disagree-----I agree

▪ **'It would be sad if Luxembourgish disappeared in the future'**

I disagree-----I agree

▪ **'People can easily get by in Luxembourg without knowing any Luxembourgish'**

I disagree-----I agree

▪ **'Luxembourg will lose its identity if we lose the Luxembourgish language'**

I disagree-----I agree

▪ **'It is easier to find a job if you speak French rather than any other language'**

I disagree-----I agree

▪ **'I enjoy speaking many different languages in Luxembourg'**

I disagree-----I agree

▪ **'Everyone should be able to write Luxembourgish'**

I disagree-----I agree

▪ **'More efforts need to be made by the government to make immigrants learn Luxembourgish so that they can integrate better'**

I disagree-----I agree

▪ **'Immigrants need to make more efforts to learn Luxembourgish so that they can integrate better'**

I disagree-----I agree

▪ **Portuguese is becoming more and more important in Luxembourg**

I disagree-----I agree

▪ **Luxembourgish is the most important language in Luxembourg because it is the language of the country**

I disagree-----I agree

About yourself

1. Are you male or female?

Male

Female

2. What is your age?

years

3. What is your nationality?

4. What is your mother's nationality?

5. What is your father's nationality?

6. What town or village do you live in?

7. What is your father's job?

8. What is your mother's job?

9. What would you like to do when you finish school? *Please choose one of the following options by ticking the appropriate box.*

-Start working in Luxembourg

-Start working abroad

Please specify country: _____

-Go to university in Luxembourg

-Go to university abroad

Please specify country: _____

Other

Please specify: _____

Questionnaire D

LANGUAGES IN LUXEMBOURG

A. Language use

1. Which language(s) can you speak?

2. Which language(s) do you find easiest to speak?

3. Which language(s) do you speak at home?

4. Which language(s) do you speak with your friends?

5. Which language(s) would you like to speak at school during school lessons?

6. *For the following questions, please indicate which language you speak in the following classroom situations by marking the line.*

For example: Always-----|-----Never

At school:

If the language of instruction is German, do you speak German?

Always-----Never

If the language of instruction is French, do you speak French?

Always-----Never

During school lessons, do you speak Luxembourgish?

Always-----Never

B. Language learning

*In this section, please indicate how you experienced learning to **understand, speak and write** the following languages. Please show how easy or difficult you found learning the languages by marking the line anywhere between 'difficult' and 'easy' for each statement.*

For example: Difficult-----|-----Easy

Understanding (when listening)

I found learning to understand ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Understanding (when reading)

I found learning to understand ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Speaking

I found learning to speak ...

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

Writing

I found learning to write

-Luxembourgish	Difficult-----Easy
-German	Difficult-----Easy
-French	Difficult-----Easy
-English	Difficult-----Easy
-Other: _____	Difficult-----Easy
_____	Difficult-----Easy

C. Language ability

For the following statements, please indicate how well or badly you can speak the following languages by marking the line.

For example: Badly-----|-----Well

1. I can speak Luxembourgish *Badly-----Well*
2. I can write Luxembourgish *Badly-----Well*
3. I can understand Luxembourgish *Badly-----Well*
4. I can speak French *Badly-----Well*
5. I can write French *Badly-----Well*
6. I can understand French *Badly-----Well*
7. I can speak German *Badly-----Well*
8. I can write German *Badly-----Well*
9. I can understand German *Badly-----Well*

D. Transition year

Please indicate your level of agreement/disagreement with the following statements by marking the line anywhere between 'Disagree' and 'Agree'.

- Students worry about the introduction of French as a language of instruction.

I disagree-----I agree

- As a teacher I find it difficult to use more than one language of instruction.

I disagree-----I agree

- I think that the students' grades become worse in non-language subjects after the change of the language of instruction from German to French.

For example: Biology, Geography, History ...

I disagree-----I agree

- I think that students' French language abilities improve after the change of the language of instruction, because they use French much more.

For example: Biology, Geography, History ...

I disagree-----I agree

E. Here are some things people have said about the language situation in Luxembourg. What do you think? Do you agree or do you disagree?

Please indicate your level of agreement/disagreement with the following statements by marking the line anywhere between 'Disagree' and 'Agree'.

- **'Teaching subjects through foreign languages of instruction helps learning foreign languages'**

I disagree-----I agree

- **'Teachers should allow students to speak different languages during the same lesson'**

I disagree-----I agree

- **'Too much time is dedicated to language teaching in Luxembourgish schools'**

I disagree-----I agree

▪ **'The current education system does not guarantee the equality of chances for all students from different backgrounds'**

For example: immigrants

I disagree-----I agree

▪ **'Teachers should allow students to speak different languages during the same school lesson'**

I disagree-----I agree

▪ **'One single language of instruction must be prescribed for every subject'**

I disagree-----I agree

▪ **'Teaching and learning materials in more than one language help students with differing language abilities'**

For example: textbooks written in French and German OR French and Luxembourgish ...

I disagree-----I agree

▪ **'Learning foreign languages such as French and German is more important than properly learning Luxembourgish at school'**

I disagree-----I agree

▪ **'School subjects such as history, biology, geography are made too difficult by the use of a foreign language of instruction'**

I disagree-----I agree

▪ **'Luxembourgish should be taught properly at school as a major subject'**

For example: Luxembourgish should be as important as French or German

I disagree-----I agree

▪ **'Speaking Luxembourgish is not enough to get by in Luxembourg'**

I disagree-----I agree

▪ **'In Luxembourg you must speak at least French'**

I disagree-----I agree

▪ **'Immigrants can integrate better if they can speak Luxembourgish'**

I disagree-----I agree

▪ **'It would be sad if Luxembourgish disappeared in the future'**

I disagree-----I agree

▪ **'People can easily get by in Luxembourg without knowing any Luxembourgish'**

I disagree-----I agree

▪ **'Luxembourg will lose its identity if we lose the Luxembourgish language'**

I disagree-----I agree

▪ **'It is easier to find a job if you speak French rather than any other language'**

I disagree-----I agree

▪ **'I enjoy speaking many different languages in Luxembourg'**

I disagree-----I agree

▪ **'Everyone should be able to write Luxembourgish'**

I disagree-----I agree

▪ **'More efforts need to be made by the government to make immigrants learn Luxembourgish so that they can integrate better'**

I disagree-----I agree

▪ **'Immigrants need to make more efforts to learn Luxembourgish so that they can integrate better'**

I disagree-----I agree

▪ **'Portuguese is becoming more and more important in Luxembourg'**

I disagree-----I agree

▪ **'Luxembourgish is the most important language in Luxembourg because it is the language of the country'**

I disagree-----I agree

About yourself

1. Are you male or female?

Male
Female

2. What is your age?

years

3. What is your nationality?

4. What is your mother's nationality?

5. What is your father's nationality?

6. What town or village do you live in?

7. What town or village did you grow up in?

8. In which country did you go to university?

9. In what type of school do you teach?

Classical Secondary School
Technical Secondary School

10. Which subjects do you teach?

11. In which year did you start teaching?

APPENDIX B: Multilingual Map Task

INSTRUCTIONS

Instruction Giver (IG)

English translation

This map task involves two participants. Both you and your partner have been given a map. **Your** map contains a route which is shown by a black line. Your partner's map does **NOT** contain a route. Your aim is to describe this route to your partner by referring to the various landmarks drawn on the map. Your partner has to draw this route onto his/her map. You are **NOT** allowed to show your map to your partner. Your partner is allowed to ask you questions at all times and you should be prepared to run into difficulties as your maps are not identical. You can take as much time as you need. Please solve all problems by talking to each other and do **NOT** show each other your maps under any circumstances. Please carry out this task in **FRENCH**.

French version

Deux personnes participent à cette tâche. Les deux participants reçoivent un plan. Sur **ton** plan tu vois un chemin qui est indiqué par une ligne noire. Sur le plan de ton partenaire, il n'y a **PAS** de chemin. Ton but est d'expliquer ce chemin à ton partenaire en utilisant les différents points de repère que tu vois sur le plan. Tu n'as **pas le droit** de montrer ton plan à ton partenaire. Ton partenaire a le droit de poser des questions à tout moment. Il se peut que ton partenaire ne comprenne pas exactement tes instructions, car les deux plans ne sont pas identiques. Vous êtes prié(e)s de résoudre tous les problèmes de compréhension en discutant et en décrivant vos plans. Vous n'avez **pas le droit de montrer** vos plans même en cas de difficultés. Vous êtes prié(e)s de parler le **français**.

Instruction Follower (IF)

English translation

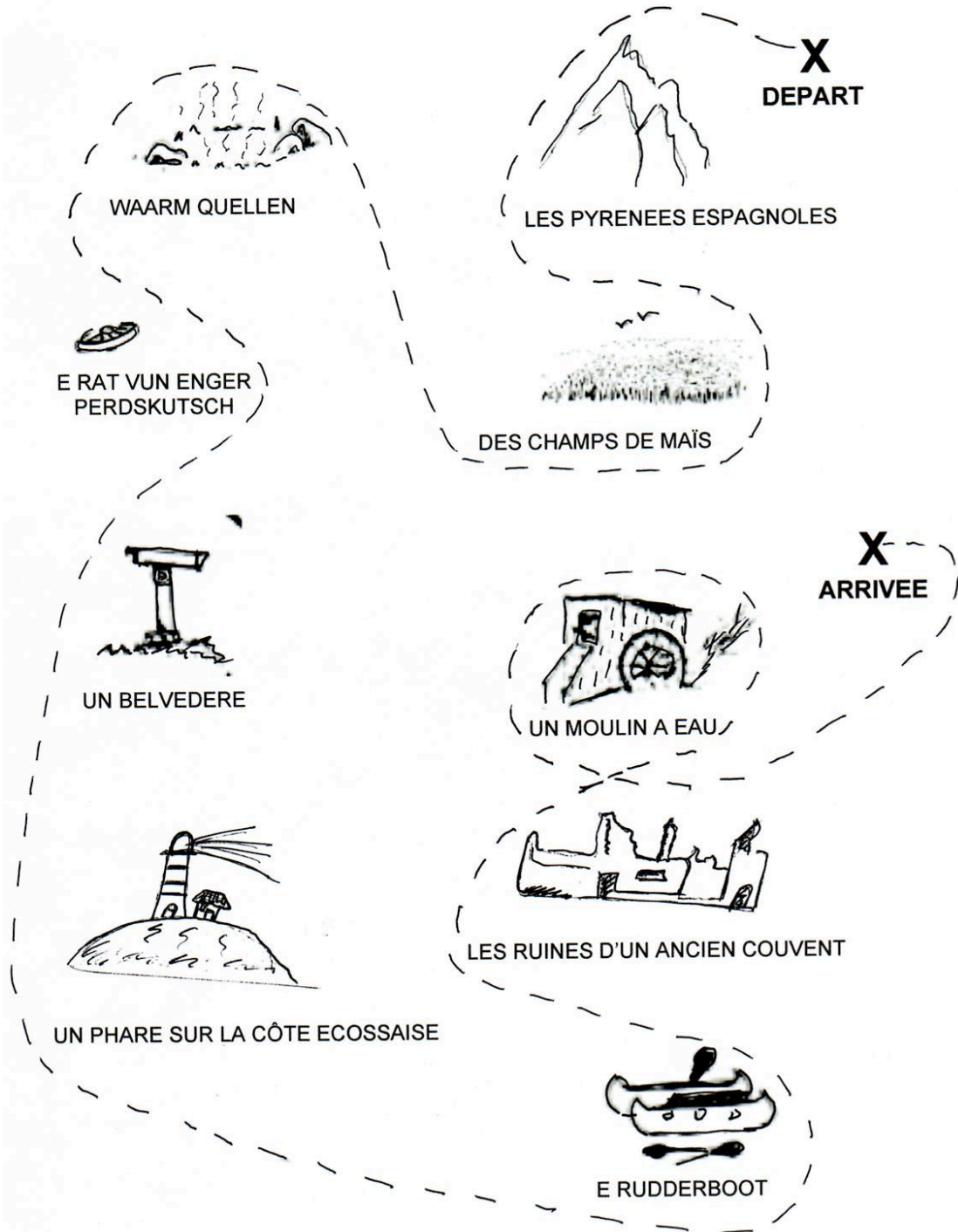
This map task involves two participants. Both you and your partner have been given a map. Various landmarks are drawn on your map. Your partner's map contains a route which he/she is going to describe to you by referring to the various landmarks drawn on your map. Your aim is to draw this route on your map. You are **NOT** allowed to see your partner's map under any circumstances. You can ask your partner questions at all times and you should be prepared to run into difficulties as your maps are not

identical. You can take as much time as you need. Please solve all problems by talking to each other and do **NOT** show each other your maps under any circumstances. Please carry out this task in **FRENCH**.

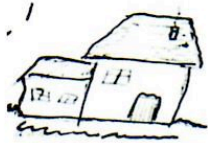
French version

Deux personnes participent à cette tâche. Les deux participants reçoivent un plan. Plusieurs points de repère sont indiqués sur ton plan. Ton partenaire va décrire un chemin en faisant référence aux différents points de repères. Ton but est de marquer ce chemin sur ton plan. Tu n'as **pas le droit de voir** le plan de ton partenaire. Tu peux poser des questions et recevoir des précisions à tout moment. Il se peut que tu ne comprennes pas exactement les instructions de ton partenaire, car les deux plans ne sont pas identiques. Vous êtes prié(e)s de résoudre tous les problèmes de compréhension en discutant et en décrivant vos plans. Vous n'avez **pas le droit de montrer** vos plans même en cas de difficultés. Vous êtes prié(e)s de parler le **français**.

Map: Instruction Giver



Map 2: Instruction Follower



AALT BAURENHAUS



LES PYRENEES ESPAGNOLES

X
DEPART



E RAT VUN ENGER
PERDSKUTSCH



DES CHAMPS DE MAÏS



EN AUSSICHTSPUNKT

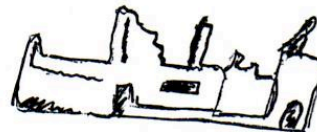


UN MOULIN A EAU

X
ARRIVEE



UN PHARE SUR LA CÔTE ECOSSAISE



EN AALT KLOUSCHTER



I FS PYRFNFFS FSPAGNOI FS

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