CONTENT

Acknowledgement

It has been a pleasure to have had the unique opportunity to plan and co-ordinate a national empirical research project concerned partly with immersion in a second language[1] while at the same time preparing the present review of international research on the same topic.

I am grateful to the Scottish Executive Education Department, and in particular to Brian Semple, for their support in enabling me to undertake this project.

I am especially indebted to Dr Kara Smith from Canada who until fairly recently was my PhD student writing her thesis on cultural identity in Canada and Scotland. Kara was exceptionally helpful in enabling me to compile a bibliography that drew on the Canadian and wider international experience of immersion.

Finally, as always I am indebted to my colleagues at Scottish CILT and in the Institute of Education of the University of Stirling, and to Lottie Gregory in particular for her contribution to the production of the text.

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[1] '*The attainments of pupils receiving Gaelic-medium primary education in Scotland*'. See the Bibliography for the full reference to the published report.

FOREWORD

A very large body of research has been published in the past twenty-five years on education through immersion in a second language. This includes not only research articles and reports but also several reviews of published research. On reading these reviews, I occasionally found an interesting reference to an article or report that was not readily available to me because it was located in another country, e.g. unpublished PhD thesis or report by or for an education board. In my present review I have occasionally referred to such texts, provided the reference to them appeared in a credible research review. In such cases I have indicated 'cited in …' in the bibliography.

In making my selection of texts from the large number that were available, I have borne in mind that the review was commissioned by the Scottish Executive Education Department for a readership in Scotland. As a consequence I have chosen research reports that seemed in one way or another to have something to say to the Scottish context. In addition, rather than present in an abstract way the full range of research on a particular theme, I have at times chosen a smaller number of texts but written rather more about them, in order to allow their particular arguments and findings space in which to breathe.

I believe that 'immersion' in a second or additional language has much to offer as a way of achieving levels of proficiency, confidence and aspiration that go far beyond what it is reasonable to expect from teaching a language as a school subject. In a nutshell, that is what the research evidence tells us. It follows that if the Scottish public were to attach high value to proficiency in other languages in addition to English, then it would be worthwhile to consider one or other from a range of possible 'immersion' options.

My review is intended for what I believe to be an exciting and emerging 'languages community' in Scotland. I hope it will be of interest to anyone with an interest in the acquisition, learning and use of languages, whether these are 'majority or minority', 'first, second, or third', 'heritage, community or modern foreign'.

The title of the review mentions a second or additional language. This is because immersion is not necessarily limited to a learner's second language. They may already have two or more languages before engaging in an immersion programme. For convenience however I use L2 as a sign for 'second or additional language'.

CHAPTER 1: INTRODUCTION

THIS CHAPTER:

- Sets out the aims of the study

- Draws a key distinction between:
  - 'immersion' in a second language (L2),
  - 'submersion' of the first language (L1) and
  - 'maintenance' of the first language (L1)

- Clarifies the meanings of key terms used in the report, including:
  - 'majority' and 'minority' languages, and
  - 'first', 'second', 'modern foreign', 'heritage' and 'community' languages.

AIMS OF THE STUDY

The present study arose from a commission from the (former) Scottish Office Education and Industry Department (SOEID)[1] which stated 'there is some dissatisfaction on the part of pupils with the teaching of foreign languages in schools and the Department does want to explore different teaching approaches. One of these is immersion teaching which is already used in the teaching of Gaelic in Scotland and in the teaching of languages in a number of other countries.'

The specification sought information from research on:

- How immersion teaching is organised and carried out.

- What skills and teaching materials teachers require.

- How pupils respond to immersion teaching.

- How pupils' attainment is influenced by immersion teaching.

- How the cost of immersion teaching compares with that of other teaching methods.

There is a substantial body of research on immersion teaching, particularly in Canada, bearing upon the first four of these five specified tasks. At the start of each chapter there is an indication of which of the above five tasks is specifically being addressed. There is very much less research information on the costs of immersion teaching. However, in the final chapter an attempt has been made to identify a number of key factors that would have to be taken into account if the costs and benefits of immersion teaching for languages other than Scottish Gaelic were to be assessed.

Also in the specification was a request to take account of ethnic minorities whose mother tongue is not English. This in itself represents a large field of research, embracing as it does their learning of the majority language of their country, their use of their mother tongue and possibly their learning of a third language, as well as their educational progress and cultural identity. It was beyond the scope of

[1] Following the advent of the Scottish Parliament (1999), this is now the 'Scottish Executive Education Department' (SEED).

the present review to do justice to this area but at various points in the review I have tried to identify and discuss some key issues, beginning with the distinction that is to follow between immersion, submersion and maintenance.

IMMERSION, SUBMERSION AND MAINTENANCE

It is important to distinguish between three concepts:

- Immersion in a second language.
- Submersion of the first language.
- Maintenance of a minority first language.

These are set out in **Figure 1**, where L1 represents 'First language' and L2 'Second language':

Figure 1 **L2 Immersion, L1 Submersion and L1 Maintenance**	
L2 Immersion	Characterised by its voluntariness. Parents choose that their children should be educated through a second language with teachers who are native or highly fluent speakers of that language. Parents are not forced into this situation. The status of their children's first language is not under threat, nor is their children's command of this language, particularly as it is often the majority language of the country. Generally, L2 immersion classes are located in schools where the majority L1 is the mainstream language of education, giving parents the choice of placing their children in an 'L2 immersion' or an 'L1 regular' class. A smaller number of schools are of the all-X variety, e.g. all-Irish schools in Ireland, all-French schools in English-speaking Canada and now one all-Gaelic primary school in Scotland. L2 immersion can lead to **additive bilingualism**, i.e. to learners possessing functional, literacy and academic skills in two languages.
L1 Submersion	Not 'voluntary'. This can apply when parents from ethnic and linguistic minority backgrounds have no choice but to put their children into mainstream schools in which the language used is the majority language of the country and where the minority language children may struggle to keep up. This is not necessarily because of any lack of innate ability but may be because they do not possess the linguistic resources in the majority language. Their first language and its associated culture may become 'submerged', with negative effects on their educational attainment and their sense of self. L1 submersion can lead to **subtractive bilingualism**, i.e. to learners perhaps acquiring a surface fluency in each of their two languages but failing to acquire an adequate level of literacy in either language for deeper cognitive and academic purposes at school
L1 Maintenance	Applies when learners from a minority L1 background have the opportunity to receive their education through the medium of this language. In Scotland, children from Gaelic-speaking homes who receive Gaelic-medium primary education are on L1-maintenance, whereas children from English-speaking homes who receive Gaelic-medium education do so on the basis of L2-immersion.

The most obvious example of 'submersion' in Scotland has been the submersion of children's Scottish Gaelic or Scots in schools. Until roughly the 1980s there was a tendency to impose a standard form of English without due regard to the languages that children brought with them from their home and local community[2]. This created a disjunction between home and school that had psychologically and educationally negative effects on many children.

A characteristic of Gaelic-medium primary school classes in Scotland today is that in many of them there is a mix of L1-maintenance and L2-immersion, with most Gaelic-medium learners being in the latter category. This offers an advantage, in that the learners from English-speaking homes may have access to their peers as well as to their teacher as models of the Gaelic language. It also offers a problem, in that the teacher may have to cope within the one class with learners who may be at very different levels of proficiency in the language, especially in the initial years of primary education.

LANGUAGES TERMINOLOGY

Languages terminology can be a minefield of different meanings, e.g. in relation to terms such as 'first' and 'second' language.

In the present text the terms L1, L2, L3:

- indicate a person's first, second and third languages. There is in fact no universal meaning of 'first language', since this may imply the 'chronologically first' or the 'stronger' or the 'more prestigious'. As used in the present text it tends to imply a combination of the first two of these possibilities. As already indicated, I am using L2 to denote 'second or additional language' except in the case of a language that is definitely a learner's third language, in which case I use L3.

- are not necessarily associated with any particular language. In Scotland for example a pupil's L1 may be English (the 'majority' language spoken by most people), or it may be Scots, Scottish Gaelic, Urdu, Cantonese or many other languages that are 'minority' or 'minoritised' in the sense that they are not the 'majority' language of the country

L1, L2 and L3 may refer to:

- the 'majority' language of the country

- another 'national' language, e.g. English-speaking pupils learning French as L2 in Canada

- a 'modern foreign' language, e.g. pupils in Scotland learning French, German, Spanish or Italian as L2 in Scotland

- a 'heritage' language, i.e. the language forms part of a country's national heritage, as is the case with the Scots and Scottish Gaelic languages in Scotland

- a 'community' language, i.e. a language such as Urdu or Cantonese that is spoken by a community or set of communities that have come to Scotland and live and work here.

The above meanings are not necessarily mutually exclusive. For example, in Scotland Urdu could reasonably be viewed as a 'first', 'community', 'heritage' and 'modern foreign' language, depending on who the individual was.

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[2] Professor T.C. Smout illustrates this point in his '*History of the Scottish People: 1830-1950*' when he argues that the 1872 Education Act had an intentionally obliterating effect on Scots and on Scottish Gaelic.

Where it is appropriate to do so, I have used a combination of terms, e.g. 'L2 minority heritage', in order to make the intended sense as clear as possible.

Of the remainder of the present report, Chapter 2 sets out the essential features of immersion programmes. Chapter 3 focuses on the attainments of immersion learners. Chapter 4 presents other sorts of outcome such as attitudes, impact and attrition. Chapter 5 presents findings on the key processes of immersion education, mainly processes of teaching and learning in classrooms but also processes of administration and of parental involvement. Chapter 6 sets out the key conditions for successful immersion programmes and assesses possibilities for immersion in other languages in Scotland.

CHAPTER 2: CHARACTERISTICS OF IMMERSION PROGRAMMES

THIS CHAPTER:

- Reflects the first task in the research-specification:
- How immersion teaching is organised and carried out

- Sets immersion in its educational and social context. It is presented as having gained international prominence in 1960s Canada, followed by adoption in several other countries

- Discusses the complex social and political purposes that may underlie immersion, since it is not only an educational phenomenon

- Explains the core and variable features of immersion programmes

- Presents different models of immersion (e.g. 'early total', 'delayed partial', 'two-way')

- Outlines the nature and explores the possible causes of 'submersion' in respect of language minorities, outlines possible strategies for getting beyond this and identifies areas for possible 'language minority' research in Scotland.

AN INTERNATIONAL PHENOMENON

IMMERSION IN CANADA

Although immersion in a second language has been a feature of education for centuries, it has in recent years become best known through developments in Canada. 'The first immersion programs were designed to provide Canada's majority-group English-speaking learners with opportunities to learn Canada's other official language.' (Genesee, 1994a: 1). Since the 1960s Canadian learners mainly from English-speaking homes have had the opportunity to receive most or much of their education through the medium of French from teachers who are native speakers of the language. Immersion programmes are implemented across the whole of Canada, presently involving some 350,000 learners of whom some 155,000 are in Ontario, and have been extensively researched. In Canada immersion differs from 'Core French' which is 'French-as-a-subject' taught across the anglophone provinces of Canada in primary and secondary schools in ways that resemble a foreign language at school in Scotland.

As a result of this extensive and systematic planning, development, experimentation, evaluation and research, it is nowadays possible in Canada to make informed predictions as to what levels of subject attainment, language proficiency and social attitudes will be delivered by Core French and by the different models of immersion education by the time learners reach the end of their primary and secondary education. Information of this sort is useful to parents and educational planners wishing to know in advance what outcomes a particular type of immersion programme is likely to yield.

Immersion elsewhere

However, 'immersion' is by no means restricted to Canada. In one form or another, it has been introduced in many other states or regions such as Hungary, Austria, France, Germany, Finland, Australia, Hawai'i, Spain (both Catalonia and the Basque region), Hong Kong, Singapore, South Africa and the USA (where Met and Lorenz, 1997, report 187 immersion programmes in twenty-five states).

Immersion is one of the most extensively researched aspects not only of languages education but of education more generally. In addition to a large number of research reports on particular immersion programmes there have been several reviews of immersion research. The present report draws on these reviews, whether as conventionally published texts, e.g. Johnson and Swain (1997), Branaman and Rennie (1997), Ottawa Board of Education (1996), Carleton Board of Education (1994), Artigal (1993), Swain and Lapkin (1990; 1986; 1982), Willig (1982), Baker (1993a), Gaudart (1987), Snow (1990a), Safty (1989), Harley (1991; 1994), Genesee (1994a), McLaughlin (1984), Doyé (1997), Read (1996), Fortune and Jorsted (1996), or as information put on the web by established research centres (see web-bibliography, e.g. Cummins, 1999).

In Scotland a review of international immersion/bilingual approaches to second language acquisition (Wolfe, 1994) helpfully 'problematises' the issue by arguing that the large number of contextual, cultural and linguistic variables involved can make it difficult to draw valid general conclusions. 'Second language learning and use clearly must be understood within the context of interpersonal and inter-group relations, and wider socio-cultural factors.' (Wolfe, 1994: 6).

Immersion in: National–Foreign–Community-Heritage languages

While most immersion in Canada has been in French as another official language of the same country, there are also examples in Canada and elsewhere of immersion in languages that may be 'foreign' (e.g. English immersion in Austria or Hungary) or 'heritage' (e.g. Gaelic or Welsh-immersion in Scotland and Wales respectively) or 'community', reflecting new communities that have settled in particular countries: (e.g. French, Japanese, Indonesian or Mandarin immersion in Australia, or Korean, Japanese or Russian immersion in the USA). Sometimes an immersion programme may involve a combination of the above (e.g. Japanese immersion in Australia could reflect a foreign language for some (e.g. with European family backgrounds) and a community language for others (e.g. with a Japanese family background).

The process is not always called 'immersion'. Sometimes the term 'bilingual education' is used, corresponding to 'partial immersion', whereby learners receive part of their education through one language and part through another (one of the two often but not always being their first language).

SOCIAL PURPOSES UNDERLYING IMMERSION

In the UK and in several other countries, immersion may serve a wide range of diverse purposes that go beyond being educational only. To illustrate this, six examples are provided:

Social background to immersion in Canada

In Canada, immersion programmes serve not only to educate learners but to fulfil two additional purposes: first, to show the French-speaking population that the English-speaking population is committed to the notion of Canada as a bilingual and multicultural nation, and second to establish a Canadian identity that is different from that of its massive neighbour to the south. As was recently stated in a public talk by a leading Canadian authority on French immersion, the big cities of Canada are strung out in a line across the entire country. None of them are very far from the border with the USA, hence the importance of immersion programmes in establishing a bilingual Canadian identity

that differentiates it from that of its neighbour. Harley (1994) suggests that 'immersion is seen ultimately as a means of strengthening national unity.' (Harley, 1994: 230).

Social background to immersion in Australia

In Australia, 'the main impetus for setting up immersion programmes in schools has been the desire to find a more effective foreign language pedagogy, against a background of strong governmental support for the learning of languages other than English (LOTE) during the 1980s and 1990s.' (Read, 1996: 471). According to Read there were two main sources of motivation behind the strong governmental support. First, waves of immigration to Australia had led to large numbers of children whose first language was not English. This had encouraged the growth of Australia as a multicultural nation and the adoption of multilingual policies. Second, Australia's geographical situation on the Pacific rim meant that for economic reasons it would benefit Australians to speak Asian languages.

Social background to immersion in the United States

In the United States, according to Genesee (1985), three purposes may be discerned in the introduction of immersion programmes: as linguistic and cultural enrichment, e.g. the Culver City Program; as magnet schools to bring about a more balanced ethnolinguistic mix, e.g. the Cincinnati program; and as a means of promoting two-way bilingualism in communities with large non-English-speaking background populations, e.g. the San Diego Bilingual Immersion Program (Read, 1996: 470).

Social background to immersion in Catalonia

In Catalonia, following the Statutes of Autonomy of the Catalan Autonomous Community (1979) and 'in accordance with the Law of Linguistic Normalisation (1982), Catalan, as the rightful language of Catalonia, must also be the rightful language of education. This very law defends the right of infants to receive education in their customary language and establishes the objective that by the end of their basic education period, all children will have to master Catalan and Spanish.' (Bel Gaya, 1994: 27). Although immersion is not the only way of achieving this requirement, it does play a key role. The Language Immersion Programme (LIP) aims to enable children from homes where Catalan is not the L1 (many are Spanish-speaking) to acquire the language, beginning during the kindergarten and Initial Cycle stages from three to eight years of age. Some schools continue the LIP programme throughout the entire primary education period. According to Arenas (1994), the general pedagogical model in Catalonia, entitled the *escola catalana*, 'represents the educational response to the socio-political will to recuperate and strengthen Catalan and Catalan culture. The *escola catalana* is a general, obligatory education model for all pre-University education in Catalonia. It is defined as the educational community which, while exercising its prerogatives as a school, and respecting the language rights of all the pupils, integrates the pupils by making Catalan and Catalan culture the language and culture of their education. It is therefore a process of integration, both socially and in the language, avoiding any type of linguistic assimilation ……' (Arenas, 1994: 15).

Social background to immersion in Germany

In Germany, bilingual French-German education in *Gymnasien* (the most academic type of secondary school) arose from the treaty of Co-operation in 1963 between France and Germany. This was based on a desire for post-war reconciliation. Bilingual education aimed 'to arrive via linguistic comprehension at understanding and awareness between neighbours whose roots lay in common western European cultural background. Former sentiments of hereditary enmity which had historically influenced the relationships between France and Germany were to be replaced by the goal of partnership through the conscious fostering of neighbourly goodwill.' (Mäsch, 1993: 155).

Social background to Gaelic immersion in Scotland

In Scotland, Gaelic-medium primary education is certainly intended to provide learners with an education that does not suffer in comparison with English-medium education but in addition it has a fundamental role in helping to preserve and reinvigorate the Gaelic speech community which throughout most of the 20th century witnessed a serious decline in the numbers speaking it. Exactly the same applies in Wales for Welsh and in Ireland for Irish Gaelic

Two points are worth noting in respect of the above examples. First, what has been given are the justifications for immersion. No claim is made here that all of these ambitious social aims are in fact achieved. (Chapter 4, which deals with the longer-term impact of immersion programmes, has something to say on this aspect). Second, if we extrapolate to languages other than Gaelic in Scotland it is worth noting that, diverse and compelling though these reasons are, none of them would necessarily apply completely to (say) French, German, Spanish or Italian immersion in Scottish primary schools. This means that a different justification for foreign language immersion in Scotland would be required. It is not difficult to think of one, e.g. in relation to a new sense of multilingual European and global community and an intention through immersion to prepare pupils for full participation in it. The point is, however, that the justification and driving force have to come not so much from those with a research perspective or a national decision-making role as from those most directly involved: pupils, teachers, school management and parents. Much therefore would rest on a change taking place in public attitudes to languages in Scottish society and the extent to which sufficient numbers of interested persons would wish to commit themselves and their children to making this happen through immersion programmes.

Immersion and socio-cultural ideology

Not that immersion is universally applauded in Canada. Several commentators have maintained that in French-speaking Quebec, for example, English-immersion programmes do not have the same momentum as French-immersion programmes in anglophone Canada, perhaps because of a fear that by immersing French-speaking children in English, Québecois parents may possibly be compromising their children's francophone identity. Moreover, 'anglophone Canadians disagree about how important it is to know French.' (Nagy and Klaiman, 1988: 264). Safty's (1992a) review of the socio-cultural implications of French immersion reveals an undercurrent of anglophone reservation. She refers to Allison's (1978) and Andrews's (1977) views that some opposition to French immersion came from those who discerned a Trudeauian 'master plan (Andrew, 1977) to increase the French-culture influence in Canada through the accumulation of *French power*' (Allison, 1978). Indeed, the title of Andrew's paper is '*Bilingual today, French tomorrow: Trudeau's master plan and how it can be stopped*' – all of which suggests that immersion programmes can be about much more than the acquisition of a second language or even the learning of other subject-matter through that language.

Differing views about immersion attainments

Not only has immersion been criticised in Canada for its alleged underlying socio-political ideology but a minority have also contested its outcomes in terms of learners' attainments in the immersion language. Hammerley (1988) for example claims that many learners after hundreds of hours of immersion may have developed a working vocabulary, some degree of fluency and a capacity to make themselves understood but have formed defective grammatical habits. A more favourable view is taken by Pawley (1985), on the basis of a range of tests of communicative proficiency (involving reading, listening, speaking, writing, grammar) administered to early-entry and late-entry immersion learners. By Grade 11 the early-entry group had received well over 6000 hours of French immersion, compared with the roughly 3000 hours for the late-entry group. She concludes: 'Although the results … have not led us to a magical response to the question (How bilingual are French immersion students?), they have given indications of how profitable, in general, our graduates of immersion programmes are, particularly with respect to external criteria. We have seen that on a reading and grammar based test, although the students did not perform as well as Quebec francophone students, their results were nonetheless quite credible in comparison. It must be recalled again that there are not only students who have gone through immersion programmes and emerged with an excellent proficiency in the language, but also those whose ability seems still to be quite basic. One would suspect that the average student, described by the statistical results, could fairly easily become fluent in the language with greater and more constant exposure to French-speaking milieu.' (Pawley, 1985: 874). Most scholars in fact consider that the second-language outcomes of immersion programmes

are impressive, provided it is recognised that they cannot turn children into native-speakers of the second language. The research findings on immersion learners' attainments are given in Chapter 3 of the present report.

Changing views of bilingual education in Wales

In the UK the most extensive developments in immersion education have taken place in Wales. As in Scotland with Scottish Gaelic, there has been a consistent decline in the numbers of speakers of Welsh over the last century (over 900,000 in the 1911 UK census declining to under 500,000 in the 1991 census). For much of the last century bilingual education in Wales was perceived by some as having negative effects: Baker (1993a) citing an article in the British Journal of Educational Psychology 'connecting bilinguals with mental confusion and relatively lower school achievement compared to monolinguals' (Williams, 1960). Over the last four decades of the 20th century however there was a change of view concerning the benefits of bilingualism and a substantial increase in a range of forms of bilingual or Welsh-medium education. These include Designated Bilingual Schools, mainly in English-speaking urban areas and 'natural' Welsh schools in the mainly Welsh-speaking areas where the main medium of instruction is Welsh.

According to Baker, the reasons for the growth of bilingual or Welsh-medium education through what he terms a 'gentle revolution' (reminding us perhaps of *la révolution tranquille* that allowed Québecois cultural identity to assert itself as a reaction to the inroads of anglophone culture in Quebec) go far beyond any educational advantages that Welsh-English bilingualism may offer to individuals. 'The growth of nationalistic political consciousness, a reaction to the authoritarian imposition of the English language and Anglophone culture are similarly important external effects on the development of Welsh bilingual education' (Baker, 1993a: 9). By 1990 one in four children at primary school in Wales were being educated mostly or partly through Welsh; there were 417 Welsh-speaking or bilingual primary schools (24.1% of the national total) and 42 Welsh-speaking or bilingual secondary schools (17.7%). In addition there was a substantial rise in the number of secondary schools offering certain subjects through the medium of Welsh. As a result of the national curriculum Welsh is a core or foundation subject that is compulsory for all learners from 5-14 and the national assessments at 7, 11, 14 and 16 are available through Welsh as well as English.

Immersion as a response to demographic decline

Welsh-medium and bilingual education in Wales are fundamental to the survival of the Welsh speech community. As Baker states: 'Simply stated, without the growth of bilingual education, there is good reason to believe the Welsh language would not survive.' (Baker, 1993a: 23). This will of a speech community to survive and retain its cultural identity perhaps explains the commitment and dedication of teachers, as evidenced by a number of researchers from the 1980s onwards: 'One function of the school, to promote the Welsh language and culture, appears to provide teachers with increased motivation, commitment and sense of direction.' (Baker, 1993a: 23).

CORE FEATURES OF IMMERSION PROGRAMMES

It is possible to establish a number of core features of immersion programmes. The list below owes much the authoritative account provided by two of the world's leading authorities on immersion (Johnson and Swain, 1997). These are set out in **Figure 2:**

Figure 2
Core features of immersion programmes

- **L2 is the main or a major medium of instruction**. That is, learners study the L2 not only in order to learn it and become proficient in it but also in order to learn other subject-matter though it.
- **The immersion L2 curriculum parallels the local L1 curriculum.** This is normally considered necessary, in order to reassure both parents and educational decision-makers that immersion learners will not lose out on anything that is important in mainstream education.
- **Overt psychological and other support exists for the L1, both from parents and the school.** That is, immersion is not intended in any way to devalue or threaten a learner's first language. It is unlikely that this would be the case if a learner's L1 is the majority language of the country, but the situation could be very different if their L1 were an ethnic minority language.
- **The programme aims for additive bilingualism**. That is, it is designed to add to and strengthen a learner's language repertoire and to help them avoid falling between two languages and into a state described as 'semi-lingualism' in which they may have a surface fluency in their two languages but are unable to use either at a deeper, more cognitive level for the learning of serious subject-matter at school.
- **Exposure to the L2 is largely confined to the classroom.** That is, learners taking immersion programmes generally do not live in an area where their immersion L2 is spoken widely as a language of the community, though it may feature in the national media.
- **Learners generally enter with similar (and limited) levels of L2 proficiency.** In Canada, for example, a French immersion class would tend to consist of learners who do not have French as the language of the home.
- **The teachers are bilingual.** Or, if they are native speakers of the majority language, they are highly fluent in the immersion language. This enables primary school immersion teachers to understand what their first-grade learners are saying to them (since by definition at the start of an immersion programme learners will normally not be able to speak the immersion language) and at the same time to respond to them from the start in the 'immersion' language.

Adapted from Johnson & Swain, 1997.

VARIABLE FEATURES OF IMMERSION PROGRAMMES

Johnson and Swain (1997) argue that immersion programmes also have a number of 'variable' features, e.g. the grade at which a programme is introduced; the amount of time devoted to the immersion language in comparison with the majority language of the school; the status of the immersion language. For example, French enjoys high status in Canada but the same has not applied to Scottish Gaelic in Scotland, though the status of this language is nowadays improving.

DIFFERENT MODELS OF IMMERSION EDUCATION

A number of different 'models' of immersion have been developed, most of which contain the core features as described above but which differ from each other according to the 'variable' features. The main models are:

- Early total immersion
- Early partial immersion
- Delayed total immersion
- Delayed partial immersion

- Late total immersion
- Late partial immersion

The 'early immersion' models usually begin from the start of primary schooling or in pre-primary education; the 'delayed' models usually begin in the middle to late primary school years; the 'late' models usually begin with adolescent learners at secondary school or with adults. 'Late total immersion' for example, is now being used in Scotland in order to bring adults (young and old) rapidly up to a high level of proficiency in Scottish Gaelic.

These six models constitute what Walker and Tedick (2000) call the 'macrocontext' of immersion education. It can be very helpful to parents and the public to know what each model delivers in terms of proficiency in the immersion language and mastery of subject content, so as to make informed choices on which model they might prefer for their children. However, Walker and Tedick rightly offer a word of caution in that these six models are in fact abstractions. They argue that there is also a 'microcontext' for immersion education where each school is different. Their study provides insight into the sorts of variable that affect immersion education at the micro-level.

FEATURES OF EARLY TOTAL IMMERSION

In early total immersion, the teacher speaks the immersion language from the start and uses a wide range of verbal and non-verbal techniques in order to help learners understand what is being said. The learners initially tend to go through a 'silent period' in which they develop comprehension skills in the immersion language and use their first language in order to express themselves. At some point (usually in year 2) a productive competence in the L2 immersion language begins to show itself and by the end of Year 2 they have usually acquired fluency. A working hypothesis behind early total immersion programmes is that initially in respect of learning subject-matter at school the learners will lag behind their counterparts who are being educated through their first language. By the end of their primary schooling however they will have caught up with them, will suffer no disadvantage in respect of their first language and will have the additional advantage of having become highly fluent (though not totally bilingual) in a second language.

The Ottawa Board of Education (1996) identifies three conditions known to facilitate second language learning and has built these into its immersion programmes:

- An early start, during children's 'optimum age' for language learning.
- Intensive exposure to the language over an extended period.
- Use of the language for (non-trivial) communication. (OBE, 1996: 1).

Harley (1994) indicates that when immersion learners go to high school they will tend to select on average two subjects in French each year plus a course in French language arts, with the remainder of their schooling in English.

Harley's (1994) review indicates a tendency for immersion classes to attract learners from backgrounds that are comparatively favoured socially, though this is not always the case. In some cities there are substantial numbers of immersion learners who come from minority community homes where one or other parent speaks a third language, and where the language of the home is not necessarily English. The attainments of 'heritage language' learners taking immersion French as their third language are discussed in Chapter 3.

A VIEW OF THE CONDITIONS FOR SUCCESS

Some of the key conditions for the success of immersion programmes are set out by Branaman and Rennie (1997): 'In kindergarten through grade 6 all academic subjects (mathematics, science, social studies, and French language arts) are taught in French except English language arts (reading and

spelling), which is introduced in grade 2. As in all other elementary schools, the focus is on learning the subject-matter of the regular curriculum; the difference is that it is taught in French, providing an opportunity for learners to learn the regular curriculum while becoming fluent in another language. Important features of the program are co-ordination and communication at the district and school levels … a team of immersion teachers and the foreign language supervisor work together to ensure a strong academic curriculum, translating and adapting the regular curriculum into French … strong teaching skills and a high level of proficiency in the foreign language are extremely important to the success of the program … the total immersion program … enjoys a high degree of support from parents, teachers, staff and administrators.' (Branaman and Rennie, 1997: 20).

PRE-SCHOOL IMMERSION

Early immersion does not necessarily begin at the start of primary school education. It may begin before then, as it often does at kindergarten in Canada. Pre-school schemes, often incorporating a mix of second-language immersion and first-language maintenance as indicated in Chapter 1, exist in many other countries or regions. These include Wales, Israel, Catalonia, the Basque region, the Netherlands, Finland, France, Italy, Luxembourg, Denmark, Belgium and Northern Ireland – plus Scotland itself through the Gaelic pre-school activity of *Comhairle nan Sgoiltean Araich* (Council of Nursery Schools). In the Republic of Ireland there has been a substantial growth in the number of *naíonrai* or Irish-medium pre-schools, amounting to over 190 by 1993, located in both the *Gaeltacht* (Irish-speaking) and *Galltacht* (English-speaking) parts. Hickey (1997) provides a comprehensive account of the *naíonrai* in respect of their origins, background, processes and outcomes. Hickey identifies the rationale behind the movement as being based on the belief that:

- pre-school education is beneficial to the child, family and community
- young children acquire a second language naturally in appropriate conditions
- pre-schooling through Irish assists in expanding the use of Irish in the realm of the family, which in turn helps to promote integration in the community (Hickey, 1997: 4).

Research evidence on the outcomes and impact of pre-school immersion is given in Chapters 3 and 4.

Two-way immersion

In recent years a new variant of L2 immersion has been developed: two-way immersion. This tends to arise when a school draws on two language communities. Christian's (1996) review of the two-way immersion in the USA shows for example, that Hispanic and anglophone learners may share a common programme in which the Hispanic learners have Spanish as L1 and learn English as L2, while the reverse applies in the case of the anglophone learners. As a consequence, each learner experiences a bilingual Spanish-English programme. An advantage of two-way immersion is that learners are exposed not only to bilingual teachers but also to classmates who have the immersion language as their L1. Each language-group of learners therefore has a teaching role (i.e. helping the other language-group) and a learning role (i.e. learning from the other language-group). This can help to establish levels of cultural and linguistic equity that may serve broader educational goals such as citizenship and respect for diversity. The goals of a two-way immersion programme in San José (USA) are stated as:

- learners will become bilingual and bi-literate (in Spanish and English) by the end of their seven-year program

- learners will experience academic success as demonstrated by achievement at or above grade level in all subject areas

- learners will acquire an appreciation and understanding of other cultures while developing positive attitudes toward themselves and their academic abilities. (Branaman and Rennie, 1997: 22).

PARTIAL IMMERSION AT SECONDARY SCHOOL

Subject-teaching via L2 at secondary school in Germany

Immersion is by no means confined to primary schools. A form of **late partial immersion**, sometimes called **content-teaching** or **content-based instruction**, is achieving increasing uptake across several European states and elsewhere in the world. Initially it tended to be adopted in 'European Schools' with learners from favoured social backgrounds whose professional parents in some cases had important 'European' posts but since the mid-1990s its range has been considerably broadened. Schmid-Schönbein, Goetz and Hoffknecht (1994) report that by 1991/1992 a large number of initiatives in secondary schools in Germany had been introduced, with important subject matter (history, geography, biology, social studies, economics and technology) being taught by means of one of several languages (English – 118 initiatives, French – 52 initiatives plus others for Spanish, Dutch, Russian and Italian). Although statistical information on content-teaching in France does not seem available, discussion with members of the national inspectorate in France suggests a similar number.

In a highly informative account from an administrator's perspective, Mäsch (1993) outlines two models of bilingual education in German *Gymnasien* (academic secondary schools):

- the **additive model** consisting of French as a foreign language plus three disciplines (geography, politics/civics and history), each shared between two teachers one of whom has French as L1 and the other with German as L1, each teaching via their mother tongue; and

- the **integrative model** in which the teaching is done by teachers with French as L1, with the effect that each discipline is taught in a more integrated way.

Bilingual Mention in German Abitur

Mäsch reports that the integrative model has become by far the most common in Germany and has moved from being an experimental model to one that has become highly developed and consolidated. Students taking their Abitur (final examinations at secondary level) aim to obtain the 'Bilingual Mention' which exempts them from language examination upon entry to further studies in France. The next step, according to Mäsch, will be the implementation of arrangements which lead to the simultaneous acquisition of both the German *Abitur* and the French *Baccalauréat*

Subject-teaching via L2 at secondary school in Hungary

Duff (1997) reports on bilingual education initiatives since 1985 in the Hungarian *gimnázium* schools which prepare 14-18 year-olds for university education. The immersion languages are English, German, French, Italian, Spanish or Russian and the subjects tend to be history, mathematics, geography, biology and physics. These are considered particularly suitable for immersion while chemistry, Hungarian, art, music, PE and optional subjects are taught in Hungarian. Both the German and the Hungarian examples show clearly that the immersion languages are not directed to subjects that are intellectually less demanding than the subjects covered by the national language; indeed, one might say 'on the contrary'.

Subject-teaching via L2 at secondary school in England

Several other countries in Europe and elsewhere have been piloting schemes based on content-teaching. Fruhauf, Coyle and Christ's (1997) volume on teaching content in a foreign language describes experiments in nine different European countries. This includes a chapter on England in which Coyle (1997) focuses in particular on two state schools. In one of them, a boys' comprehensive, the allocation of time was as set out in **Figure 3**:

Figure 3: **Framework for teaching Geography in Spanish: Boys' comprehensive school in England.**		
Secondary education	*Lessons per week (45 minutes) during school hours*	*Lessons per week outside school hours, e.g. early morning*
Years 1-2 (aged 11-13) compulsory	2 x Spanish 2 x geography in English	
Year 3 (aged 13-14) Top ability group only. Compulsory.	2 x Spanish (intensive) 2 x geography in Spanish.	
Year 4 (aged 14-1§5). Learner choice to continue.	2 x Spanish (intensive) Take Spanish GCSE exam one year early.	2 x geography in Spanish. (1 x early morning. 1 x after school.)
Year 5 (aged 15-16). As in Year 4.	2 x geography in Spanish. Take geography GCSE exam in Spanish.	

Adapted from Coyle, 1997

At the other school (state comprehensive for girls) lessons were held during normal class hours. In both cases the provision was for the most able learners only. The outcomes of these two instances of content-teaching through the medium of a foreign language are given in Chapter 3.

Subject-teaching via L2 at secondary school in Australia

The Australian model of late immersion differs from most others in that: 'Students start cold with virtually no previous experience of the language, yet study academic subjects such as science, history and mathematics concurrently with acquiring basic language skills' (Read, 1996: 473). As an example in one particular school, over Years 8, 9 and 10 five core subjects are taught in French (maths, science, PE, social science and French), amounting to 1600 hours of lessons. After Year 10 they resort to the monolingual curriculum but may continue with French in years 11 and 12. Participation in the immersion programme is by choice, with students selected for aptitude. The reasons for the distinctive late-immersion cold-start approach in Australia are three-fold according to Read (1996): a general lack of articulation in Australia between primary and secondary education (possibly making early immersion a generally less strong option); an optimistic 'Have a go' attitude that Australians possess; and a general freedom of curricular decision-making in Australian schools.

Immersion in post-school education

Burger, Wesche and Migneron (1997) report on a form of immersion at university level at the University of Ottawa's Second Language Institute. There it is possible for students to take courses through the medium of their second language, with most take-up being by anglophone students with French as L2. In addition to taking courses in a range of subject disciplines they have available to them a set of 'adjunct' courses of advanced study in their L2 itself. These are tailored to the subject discipline course, e.g. in respect of strategies for understanding lectures, specialised terminology, and practice in researching and writing papers. Both types of course carry credit. A series of formal evaluations found consistent gains in second language proficiency for L2 students taking these courses and students were almost without exception successful in their subject-matter learning. They also generally reported greater self-confidence and lower anxiety in using the second language.

Read (1996) describes the world's first Initial Teacher Education (ITE) programme in Australia offered by means of immersion through Japanese, within LACITEP (Language and Culture Initial Teacher Education Programme). It is available to students who have completed Japanese to Year 12

at high school. Some of the ITE subjects are entirely in Japanese, others are partially so and others are in English. The programme offers a qualification for primary school teaching (general), for methods of teaching Japanese; for immersion education pedagogy; and for Asian Studies. The University of Southern Queensland, a world leader in distance education, has developed a semester-length unit on immersion teaching which is becoming accessible in several countries.

LANGUAGE MINORITIES: BEYOND SUBMERSION

There is a wide range of research bearing on subtractive bilingualism as a by-product of 'submersion'. However, it is beyond the scope of the present review to present this research, since the purpose of the review is to present research on additive bilingualism as a by-product of 'immersion'. Nonetheless, since immersion and submersion are often confused, it was considered appropriate to present some key ideas concerning language minorities and the 'submersion' of their first language.

The reader wishing to gain an overview of this issue has a range of excellent books on which to draw, e.g. Tosi and Leung, 1999; García and Baker, 1995; Genesee, 1994; Baker, 1993b; Baetens-Beardsmore, 1993; Skutnabb-Kangas & Cummins, 1988.

Empowering language minority learners

One of the leading authorities on language minorities and second language learning, Cummins (1988) argues that language minority students become empowered through their education to the extent that:

- '… minority language students' language and culture are incorporated into the school programme;
- minority community participation is encouraged as an integral component of children's education;
- the pedagogy promotes intrinsic motivation on the part of students to use language actively in order to generate their own knowledge; and
- professionals involved in assessment become advocates for minority students by focusing primarily on the ways in which students' academic difficulty is a function of interactions within the school context rather than legitimising the location of the 'problem' with students.' (Cummins, 1988: 138).

Although he is one of the leading theorists of multilingual education, Cummins' (2001) study of the instructional conditions for trilingual development is intended to offer a practical discussion of how teachers within their weekly teaching approach might have three different sorts of focus as they seek to empower bi- or tri-lingual students, many of whom will be from minority language backgrounds. These are: focus on meaning by making input comprehensible and developing critical literacy; focus on language through awareness of language forms and uses and including critical analysis of language forms and uses; and focus on use, i.e. using language to generate new knowledge, to create literature and art and to act on social realities. Central to the approach is the development of critical literacy and the questioning of assumptions. This will be particularly beneficial to students from historically subordinated groups (many of whom have two or more languages) by enabling them (p74) 'to identify and challenge manifestations of coercive relations of power, e.g. the stigmatised status of certain non-standard varieties of language.'

IMPORTANCE OF L1 LITERACY FOR LANGUAGE MINORITY LEARNERS

Reviewing the research on the relationship between L1 and L2 in the case of language minority (L1) students, Cummins claims :

> '… the implication of these data is that bilingual programs that strongly promote students' L1 literacy skills are viable means to promote academic development in English. The positive results of programs that continue to promote L1 literacy throughout elementary school can be attributed to the combined effects of reinforcing the students' cultural identity and their conceptual growth as well as to the greater likelihood of parental involvement in such programs …' (Cummins, 1994: 39).

Empirical evidence substantiating this claim is given in Chapter 3 of the present review in respect of the study by Swain and Lapkin (1991).

Differential time taken by language minority pupils to reach conversational and academic proficiency in English

Referring to his own research (Cummins, 1981) and to that of Collier (1987), Cummins concludes that:

> '… very different time periods are required for students to attain peer-appropriate levels in conversational skills in English as compared to academic skills. Specifically, while there will be major individual differences (Wong-Fillmore, 1991), conversational skills often approach native-like levels within about two years of exposure to English, whereas a period of four to nine years (Collier, 1987, 1989) or five to seven years (Cummins, 1981) of school exposure has been reported as necessary for second language students to achieve as well as native speakers in academic aspects of English.' (Cummins, 1994: 39)

This gap between the time it takes language minority students to acquire peer-appropriate levels of conversational fluency and academic skill in English has great significance for teachers. The very fluency with which such pupils speak English may lead in some cases to a false diagnosis in which such pupils are classified as academically less able when in fact what they require is an appropriate amount of developmental time in which to master academic skill in their second language.

CALIFORNIA: PROPOSITION 227

If the research referred to above indicates a key role for a language minority learner's L1 in avoiding the negative effects of submersion, an alternative and competing approach has been developed in California, aimed at projecting language minority learners fast into English as L2. The passing of Proposition 227 into California state legislation (1998) has been described as 'California's elimination of bilingual education' (web-reference for Maceri, 1999). Proposition 227 requires all school students who do not have English as L1 to receive an intensive one-year programme of 'structured immersion' in English as a prelude to being transferred into mainstream English language classes. Protests have been raised (web-references for Mora, 1999; Minor, 1999) claiming that this will be disadvantageous to the students concerned. It is feared that they will not acquire literacy in their first language and therefore will have greater difficulty in developing academic and literacy skills in English as L2, particularly as their subsequent progress will be evaluated prematurely alongside that of their majority English L1 classmates. Another fear is that it will undermine two-way immersion programmes which by definition require the participation of students from two different language groups.

What underlies Proposition 227 is not clear. Perhaps it has to be understood in part at least as an attempt to re-assert a dominant role for the English language in a state where there are increasing numbers of Spanish speakers. If so, this would lend support to my earlier argument that in order to understand language education policy developments of this sort it is necessary to ask what socio-cultural issues lie concealed behind them.

POLICY STATEMENT FOR LANGUAGE MINORITY LEARNERS IN SCOTLAND

An important policy statement concerning language minorities in Scotland was published by CERES (1999). In it they view bilingualism as a positive capacity which confers four sorts of benefits to individuals and societies: educational, economic, social equality and human rights, each of which they exemplify in some detail. They claim that:

- 'More than 60 languages are currently used in daily life throughout Scotland. This scale of linguistic diversity goes largely unrecognised by educational and other service providers and, where it is recognised, is often seen as a problem.' (p3).

- 'Positive action to promote bilingualism and community languages remains *ad hoc* and very limited' (p10).

- 'Community language teaching is relegated to out-of-school provision in most instances and where it is mainstreamed it is time-tabled against modern languages thus depriving the pupil of the opportunity to extend their basic skills' (p11).

- 'Bilingual teachers are in short supply' (p11).

- 'Consistent monitoring or dissemination of school census statistics on languages is not in place' (p11).

Among their many important recommendations are that local authorities should:

- 'Monitor the languages used by pupils by gathering the relevant information at the enrolment stage of every pupil. This should then be related to the monitoring of attainment and general progress of bilingual students throughout the school/education programme' (p26).

The CERES document also makes some important points about bilingual education from an international research perspective. It claims that:

- 'Research studies have shown that the effects of subtractive bilingualism are generally negative. This is the current situation for community languages in Scotland' (p22).

As regards what to do, they draw on Thomas and Collier's important research study:

- '… the message from our findings is overwhelmingly clear that language minority groups benefit enormously in the long term from on-grade-level academic work in L1 (their first language). The more children develop L1 academically and cognitively at an age appropriate level, the more successful they will be in academic achievement in L2 (in this case English) by the end of their school years … Potentially bilingual children who are educated only through their second language, consistently fail to perform at the level of monolingual children' (Thomas and Collier, 1997).

'Emerging cultures of hybridity': some recent research on language minorities in England

In his '*Re-thinking the bilingual learner*' Harris (1999) reports on a study he conducted with a Year 10 class, twenty-seven of whom 'had strong connections with South Asian ethnicity, in many cases combined with an East African one' (Harris, 1999: 72). Among their family languages were Punjabi (16 students), Gujurati (9), Kurdish, Mauritian French Creole, Swahili and Urdu. Twenty-seven of the students had been born in Britain 'and in their routine characterisations of themselves plainly resisted the notion that they were outsiders to British society or unfamiliar with its language and

culture.' (Harris, 1999: 74). Harris contrasts this with 'official views' including an OFSTED report (1994) which had characterised minority groups in terms of linguistic and other barriers which were inhibiting their access to and take up of mainstream services.

Harris's interviews with the students led him to reject:

- 'the neat binary opposition between English language and Asian home/community languages, in which they are regularly positioned as outsiders in relation to the former and insiders with regard to the latter.' (Harris, 1999: 76).

Harris found the pupils to be 'linguistically comfortable and confident with a local urban English while retaining a weaker but nevertheless continuing relationship with a home/community language. 'Slang' was an important component of their routine speech in English. The pupils claimed an ambiguous relationship with and limited expertise in their home/community language, though they consistently used it with grandparents in order to show respect. They had attended supplementary school classes in order to develop their home/community language but in all cases had given this up, though they found it difficult to explain why this was so.

Harris concludes that the 'notion of bilingual learner seems to be cast firmly in terms of the learning of English by those who are unfamiliar with it' (p81) and that it might be more fruitful to imagine a number of different categories of bilingual learner. These he describes as: the 'new arrivals'; the 'low-key British bilinguals' consisting of a number of sub-groups; and the 'high-achieving multilinguals', with each category having very different characteristics.

He supports Hall (1992) in seeing members of minority groups 'as active participants in the creation of vibrant new ethnicities and not passive inheritors of fixed ethnicities, identities, cultures and languages. This helps to explain why the pupils in the present research were so resistant to wholesale unambiguous identification with either essentialised Asianness or essentialised Britishness.' (Harris, 1999: 75). Like Mercer he sees them as actors in the creation of 'emerging cultures of hybridity' (Mercer, 1994: 3).

IMPLICATIONS FOR SCOTLAND

To what extent does L1 submersion occur in Scotland? Is the CERES document justified in implying that community languages in Scotland tend at present to be negatively associated with subtractive bilingualism? It is very likely that such an association does exist and that steps should be taken to improve the situation, possibly incorporating the 'empowerment' factors as set out by Cummins earlier in this section plus a range of other measures besides. At the same time though the research in England referred to above invites us to think very carefully about what may be meant by the terms 'L1' and 'ethnicity'. It suggests that these concepts have to be understood probably more in terms of 'vitality', 'change' and 'hybridity' than in terms of 'tradition' and 'purity' and that the views of the individuals concerned are central to any informed understanding of what is happening and of what should be done.

In Scotland there is not a substantial body of published empirical research on submersion. It would seem highly appropriate for research to be undertaken in this area, possibly incorporating a two-way approach:

- First, along the lines of the Harris research, it would be helpful to develop an account of the perceptions of individuals from the language minority groups in Scotland. This would ideally be across a spread of ages and would afford insight into how they perceive their identity. It would illuminate the nature of the linguistic and cultural processes in which they find themselves engaged, the views they take of these processes and the extent to which change is taking place across the generations.

Valuable though such an account would be in its own terms, it would desirably also be viewed as contextual data for a set of more quantitative studies on educational attainment. Therefore:

- Second, it would be helpful to clarify any links that may exist between their minority language and their educational progress and attainment. This would entail finding answers to a range of questions including: What sorts of educational attainment are shown by pupils from language minority backgrounds? Are there differences from one language minority group to another? In cases where their educational attainment is low, is there any evidence to support a 'submersion' hypothesis? What role is played by the 'language' factors as compared with factors in other areas, e.g. educational, social, religious, family, cultural? What sorts of factor should be addressed – e.g. in relation to their L1 and L2 literacy and to the initial education and professional development of their teachers - in order to allow them to progress well at school?

As CERES correctly points out, there is little systematic gathering of data on language minority groups. Unlike the case of Scottish Gaelic, the other 'minority' or 'minoritised' languages of Scotland, whether Scots itself or the more recent community languages, do not figure as items in the national UK census that takes place every ten years. Without such data-collection and research, it becomes difficult to be precise about the nature of any problems that exist and in turn find solutions to these.

CHAPTER 3: OUTCOMES OF IMMERSION: ATTAINMENTS

THIS CHAPTER:

- Summarises the research on learners' attainments in immersion generally, covering the task in the research specification concerned with:
- How learners' attainment is influenced by immersion teaching

- Shows the differential effects of different models of immersion (e.g. 'early total', 'early partial', 'two-way') on such attainments in respect of immersion language, first language and other subject outcomes (e.g. mathematics, science, social studies)

- Presents evidence for the positive long-term effects of early L2 immersion on learners' higher-level psycholinguistic command of their L1; and for the long-term effects of delayed partial immersion as compared with more conventional 'drip-feed' teaching of L2-as-subject

- Indicates how one Education Board describes the outcomes of two different models of immersion for parents so that they make their own informed choice

- Compares the attainment outcomes of French immersion in schools where there is also an English-language stream and those of all-French schools in respect of French-language, English language and mathematics

- Discusses what it is and is not reasonable to expect of immersion learners' attainments.

COMPARING THE OUTCOMES OF DIFFERENT MODELS: A CANADIAN EDUCATION BOARD SURVEY

The Carleton Board of Education (1996) report is based on research evaluations of several immersion teaching initiatives in the Ottawa area of Canada. It distinguishes between:

- Early French Immersion (EFI) whereby learners (mainly from English-speaking homes) received 100% French in Grade 1, 80% French in Grades 2-5, and 50% French in Grades 5-8

- Middle French Immersion (MFI) whereby learners receive 80% French in Grades 4-6 and 50% French in Grades 7-8; and

- Late French Immersion (LFI) whereby learners receive 80% French in Grades 7 and 8.

So far as social background is concerned, EFI programs attracted the most representative social range. Initially, FI was adopted by middle-class parents but subsequently its range broadened considerably, though the weakest learners or those with specific disabilities tended to be still under-represented. LFI programs tended to be more restricted to middle-class families. Below-average learners tended to do as well in EFI classes as they did in regular English programs, provided that they received the same support services.

Academic achievement: immersion language

Their conclusion is that in respect of French language outcomes, all FI models (EFI, MFI and LFI) produce functional proficiency in French in all four skills of listening, speaking, reading and writing. These go well beyond what is achieved in the more limited Core French programme (i.e. in French as a school subject). Moreover, EFI learners consistently outperform MFI learners who in turn outperform LFI learners.

*Academic achievement: English languag***e**

A number of studies of French immersion in Canada (e.g. Fine, 1992; Gaudet and Pelletier, 1993; McVey, Bonyon, Dicks and Dionne, 1990; Harley, 1991) show that French immersion learners suffer no disadvantage in their English and in some cases tend to score higher in English than learners who are on the regular English-language programme.

In respect of English language outcomes, EFI was found to produce no disadvantageous long-term effects on the English oral or literacy skills of English-speaking learners who remain in FI and are typical of the population as a whole. Predictably, there is a temporary lag in English reading and other skills but this is normally overcome within a year once English Language Arts has been introduced, usually from Grade 3. Indeed, EFI learners were found in some cases to achieve some enhancement of their English language skills (e.g. in grammatical usage) over matched English program learners (there was no such effect for MFI or LFI). The report however does suggest that EFI may not always be appropriate for those learners, including those from language minorities, whose English skills are not well-established by the time they enter primary school.

*Academic achievement: mathematics, science, social studi***es**

In respect of more general academic achievement, no negative effects were found for EFI learners in mathematics, science and social studies (when they were tested in English) though in some cases their scores were slightly lower when tested in French. EFI and LFI learners obtained similar scores for mathematics at Grades 4 and 6 (i.e. when the LFI learners were still being educated through the medium of English). One study found similar outcomes for EFI, MFI and LFI in mathematics at Grades 3, 5 and 7. In some cases, there was a temporary lag with LFI learners who had had only a limited prior experience of Core French. No differences were reported between EFI and LFI learners in standardised tests of academic subjects at the end of their secondary schooling.

COMPARING THE OUTCOMES OF DIFFERENT MODELS: OTHER STUDIES

EFI tending to be favoured

A review of immersion outcomes by Genesee (1987) revealed similar findings. As regards achievement in English, EFI tended to be superior to MFI which in turn was superior to LFI. EFI children tended to lag behind their 'regular' mainstream counterparts in reading, spelling and written vocabulary in Grades 1-3 when almost all of their instruction was in French but they caught up thereafter. As regards other academic achievement, standardised tests in mathematics, science and English language arts indicated that by the end of elementary schooling FI had no negative effect on the academic achievement of EFI and LFI learners, with similar results being maintained at the end of secondary education.

Lapkin, Hart and Swain (1991) conducted a large-scale evaluation of early French Immersion (EFI) and Middle French Immersion (MFI) in metropolitan Toronto across four boards and twenty-six Grade 8 classes. The MFI began at Grade 5 with 50% French and amounted to 2040 hours by the end of Grade 8. EFI began at Grade 1 and received 5300 to 6040 hours by Grade 8 (with English-language activities being fed in as from Grade 3 and with 50/50 French/English as from Grade 5). The two groups were compared for listening, speaking, reading and writing in French. Overall the results showed that EFI learners outperformed the MFIs in all four skill areas except in stating an opinion where it was hypothesised that the cognitive skills underlying this task may have transferred

from first to second language and thereby enabled the MFLs to perform as well as the EFIs. The MFI group did least well on grammar and syntax in speaking and writing and the EFI group were nearer to native speakers on all four measures. The researchers concluded that the differences by Grade 8 were substantial and important, to the extent that it would not be appropriate for the two groups to be merged thereafter.

Hart, Lapkin and Swain (1988) compared early and middle immersion students. The early immersion group outperformed those in a middle immersion programme that had 50% French beginning in Grade 5, but were not superior to a middle immersion group receiving 100% immersion from Grade 4. This may suggest that the intensity of the L2 immersion (100% as compared with 50%) may be a stronger factor than the age at which immersion begins.

Hart, Lapkin and Swain (1992) evaluated modes of instruction in French in the maritime provinces with Grade 9 early and late immersion learners. In Prince Edward island the EFI learners outperformed the LFIs on listening and on one speaking measure; in Nova Scotia they were superior on all measures and in New Brunswick were superior on listening, speaking and cloze tests.

The Peel Board of Education in Canada (1992) compared two models by the end of Grade 8: early French immersion (EFI) consisting of 5220 hours in French and what they called extended French which consisted of 1260 hours. EFI learners significantly outperformed the extended learners in listening, speaking and reading, though there were no differences in writing. The difference in performance was considered to reflect the greater number of hours of exposure (the 'time' factor) enjoyed by the EFI learners. Perhaps the lack of difference in writing suggests that this skill was more reliant than the other three on learners' levels of cognitive maturity as opposed to the number of hours of exposure to French.

EFI and FLI compared for sociolinguistic performance

Swain and Lapkin (1990) compared the sociolinguistic performance of Grade 10 learners who had been on immersion programmes, one group having received early immersion (EI) from the age of five and the other late immersion (LI) from the age of twelve. Their assumption was that the EIs would be closer to native speakers. The results showed this to be true, not just in terms of obvious features such as command of the *tu-vous* distinction but also of fillers such as *un petit peu* and the ability to vary between different forms such as *Pourriez-vous expliquer …?* and *Est-ce que tu pourrais expliquer …?*

EFI catching-up on L1 literacy skills

Harley's (1991) review states: 'The research has shown quite consistently that, in the first few grades, immersion classes receive lower average scores than English comparison groups on some standardised measures of English literacy skills. Soon after the introduction of English language arts, however, the immersion classes obtain equivalent results and in some instances have outperformed the comparison groups at Grades 5 and 6.' (Harley, 1991: 11).

MFI and LFI to some extent catching up on L2 literacy skills

A study by Dicks (1994) compared early, middle and late French immersion (EFI, MFI and LFI) learners' command of French verbs. The study was designed to cast some light on the benefits or otherwise of an early start. Those favouring the early start (as in EFI) argued that this gave the advantage of a larger number of cumulative hours of exposure and also activated more natural acquisition by the younger learners. Those favouring a later start, as in MFI or LFI, argued on the other hand that the older children would be able to utilise their more advanced cognitive abilities and their first language literacy skills. The findings favoured EFI over MFI and then LFI. The study also showed, however, that some MFI and LFI learners were able to catch up on their EFI counterparts in performing analytical written tasks but less so in more natural, meaning-focused oral tasks where the early start gave and maintained an advantage.

Harley's (1991) review states that: 'Comparisons of the French proficiency of early and late immersion students in secondary-level follow-up programs reveal a general tendency for late

immersion students to catch up in reading and writing skills, with early immersion students usually maintaining an advantage in listening and in spoken French.' (Harley, 1991: 13). An explanation for the apparent catch-up by the later immersion group would be that they were cognitively more mature and had already acquired literacy skills in their first language which they were able to utilise in making rapid progress in L2 literacy within the immersion context.

Longer-term effects of EFI and LFI

In order to gauge the longer-term effects of different models of immersion, Wesche (1993) compared early French immersion (EFI) and late French immersion (LFI) learners on entry to university in 1985 and then subsequently in 1988. In 1985 the EFI group slightly outperformed the LFIs in listening, oral interview and self-assessment. The EFI group also reported a greater amount of real French use outwith the teaching and learning context. By 1988 the difference between the groups in oral interviews had gone. However, Wesche argues that this does not necessarily mean that in the long term LFI is as effective as EFI, since some or all of the findings may result from mixing learners together at secondary level; and in addition EFI attracts a broader range of the school population than does LFI where groups tend to consist of more academic learners. In 1991 a follow-up study was conducted post-university of the 1985 entry cohort in respect of attitudes to immersion. Both EFI and LFI learners expressed favourable attitudes to French immersion, with EFI being the more positive.

PRESENTING THE OUTCOMES OF DIFFERENT MODELS FOR THE PUBLIC

Immersion research in Canada has been taking place for over 25 years. The outcomes of different models of immersion have become clarified and can be described for the benefit of prospective parents and the public. **Figure 4** overleaf shows comparative outcomes published on the web by the Carleton Board of Education in Ontario for Early French Immersion and Late French Immersion:

Figure 4
Public representation of outcomes of early and late French immersion

Early French Immersion (EFI)
Kindergarten is the normal point of entry for EFI. Learners are taught in French 100% of the time in kindergarten and Grade 1. With the introduction of English in Grade 2, the French portion drops to 80% and gradually diminishes to 50% in Grades 7 and 9.
Outcomes:
By Grade 10 learners:

- would be able to take further education with French as the language of instruction, at the college or university level, understanding lectures, writing papers and participating in class discussions;
- could live in a French community after a short orientation period;
- would be able to participate easily in conversation;
- would have absorbed information about the culture, society, customs, economy, government and institutions of a French-speaking community;
- could understand and appreciate the values held by members of the French-speaking community

Late French Immersion (LFI)
This starts the intensive use of French for instruction in Grade 7 and builds on a solid base developed through the core French programme from kindergarten to Grade 6. French makes up approximately 70% of the program in Grades 7 and 8 and 50% in Grade 9.
Outcomes:
After completing LFI learners:

- would be able to read newspapers and books of interest with occasional help from a dictionary;
- would be able to understand radio and television news and other programs of interest;
- could participate adequately in conversation;
- would have absorbed information about culture, society, customs, economy, government and institutions of a French-speaking community;
- would be able to function quite well in a French community after a few months residence.

From Carleton Board of Education

OUTCOMES OF IMMERSION IN PARTICULAR SECTORS

Pre-school and early primary immersion

Development of metalinguistic awareness and an analytical approach to language

There does not appear to be much research which reliably isolates the impact of pre-school immersion on children's subsequent attainments, and – as has already been argued in Chapter 2 – pre-school immersion may serve profound social purposes. These might include survival and revitalisation of a declining speech community as well as serve to promote the attainments of individual children. However, so far as attainments are concerned, such evidence as there is does point to beneficial effects – a form of positive early linguistic intervention. Göncz and Kodzolpeljic (1991) for example concluded that pre-school immersion helps young children to make more rapid progress than monolingual children in developing metalinguistic awareness and a more analytical approach to language. This meant that they were more aware of the arbitrary relationship between words in any language and their referents. They would be better able to grasp for example that the English word 'table' is not an inherent property of the object that in English we call 'table' and would understand that the German word 'Tisch' can equally well represent that same object. They were more able to break words down into component parts such as syllables and phonemes, thereby making them well-placed for the acquisition of literacy skills. A similar finding was obtained by Bialystock (1986).

Longer-term impact on high-level psycholinguistic functioning

Neufeld (1993) investigated the long-term effects of early French Immersion (EFI) on learners' command of English as first language in what he termed 'high-level psycholinguistic functioning'. Two groups of university learners were compared: twenty who had received EFI and twenty who had received the mainstream 'core French' (i.e. French as a subject) at school. Their use of English was tested in four areas: richness of vocabulary, sensitivity to multiple meanings, tolerance of non-standard structures and ability to rapidly understand utterances on a variety of topics some of which involved abstract concepts. The findings showed that EFI had produced no negative effects. Indeed the EFI group showed more figurative or metaphoric use of English than those who had followed the regular programme.

Early L2 Catalan immersion compared with L1Catalan and L1 Spanish

An evaluation in Catalonia (Arenas, 1994) compared the attainments in Catalan, Spanish and mathematics of three samples of children at the age of seven: A (L1-Spanish receiving Catalan immersion); B (L1-Catalan receiving Catalan language education); D (L1-Spanish not in immersion but receiving Spanish language education). In all three areas standardised tests were used which allowed for a further comparison with performance in Catalonia as a whole. In descending rank order the performance of the three samples relative to each other were: Catalan Language (B, A, D – A scored highest in written expression); Spanish language (D, A, B); mathematics (B, D, A). Although the report does not discuss whether the differences were statistically significant, nor does it indicate the range of scores within each sample, the graphs supplied in the text suggest that the differences were close together and not substantial. According to Arenas, 'many children taking part in the LIP in Catalonia are from a low social-cultural background' (Arenas, 1996: 24). It is therefore of interest that the immersion pupils (i.e. Spanish as L1 being immersed in Catalan) generally did so well during such an early phase in their educational careers.

EARLY PARTIAL IMMERSION AT PRIMARY SCHOOL

Spanish, French and Japanese in the United States

Thomas, Collier and Abbott (1993) studied the effects of early partial immersion (EPI) over Grades 1-3 across eight schools in Fairfax County (USA) as compared with learners in a comparison group who were educated through English (EPI = 719 learners and Comparison = 1320). The EPI and Comparison samples were carefully matched through COGAT (a cognitive abilities test), socio-economic status, ethnic grouping and primary language (in one of the schools there was a sizeable

Spanish-speaking group). The distribution of immersion was: four schools for Spanish, three for Japanese and one for French. Mathematics, science and health were taught entirely via the immersion language for half of each day, while in the other half of each day English language arts and social studies were taught through English. There was no formal instruction focusing on the immersion language. Instead it was assumed that learners would acquire oral proficiency in it through focusing on their mathematics, science and health activities, with formal instruction on the immersion language being planned for the upper elementary grades. Teaching was achieved through a partnership between an English-speaking and an immersion language-speaking teacher rather than individually through bilingual teachers. Each pair of teachers planned the overall curriculum together.

The findings showed that: in mathematics the EPI groups did at least as well as the Comparison groups in grades 1, 2 and 3; in English language arts, the EPIs were significantly outperforming the Comparisons after Grade 2 of the immersion language; all three immersion-language groups were making steady progress towards oral proficiency. Comparisons were also made between the EPI and comparison groups and the average performance for Fairfax County (which had mean attainment scores above the national USA average), and both the EPI and Comparison groups were above the County mean scores on all measures.

A significant dimension to this study is that it shows young children responding as well to Japanese as to Spanish and French. Taken along with the national findings on Scottish Gaelic (Johnstone, Harlen, MacNeil, Stradling and Thorpe 1999), this suggests that perceived 'distance' from a child's first language is not a factor that impedes them from acquiring the language naturally in immersion settings.

German and French in Australia

Clyne (1991) compared two models at primary school in Australia. Model A consisted of 5.5 hours per week of partial immersion German in which learners learnt science, art and physical education, whereas Model B allowed for 2.5 hours per week. A Model C was subsequently developed representing a compromise between Models A and B. The results for attainment in German showed the clear superiority of Model A, confirming again the importance of the factors of 'time' and 'intensity' in promoting children's L2 development. The results also showed that children taking any of the three models did not suffer in respect of their command of English when compared with children educated totally through the medium of English.

De Courcy, Burston and Warren (1999) describe a partial immersion initiative at primary school in Melbourne whereby pupils received 45% of their instruction in French which was the language used for mathematics, physical education and art. Of particular interest was the application of a framework of four stages for describing pupils' progression in the language that Clyne had originally developed:

- Stage 1 utterances consist of one or two-word answers in German, formulaic responses or no answer in German.
- In Stage 2 the matrix language is English but individual German words are transferred.
- Stage 3 utterances consist of an attempt to speak German but with frequent code-switching to English within sentences.
- In Stage 4 the matrix language is German with occasional English words transferred and sometimes integrated into the phonological/grammatical system of German. (Clyne, 1986, in De Courcy, Burston and Warren, 1999: 15).

They found that many of the children as early as year 2 had impressively reached Stage 4 but that their language contained developmental errors including lack of gender agreement, use of English word order and use of the 'pseudo-progressive', e.g *la femme est regarder un petit gnome.* This suggested to them that ways required to be found of integrating the teaching of L2 structural form into the L2 teaching of primary school content.

A partial immersion initiative in Brisbane, reported by Tisdell (1999), covered years 1-6, with German being used 30% of the time (90 minutes per day) for science and social science. The content of these areas was in no way modified or reduced, and the teachers talked freely in German, generally not modifying their talk downwards or assisting with interjections in English. The motto for pupils' spoken production was: 'German is best, but half German and half English is better than just English'. Pupils' spoken production in German is reported as:

- Year 1: Single word, though by term two pupils understand everything the teacher says.
- Year 2: Sentences.
- Year 3: Longer compound statements.

In common with a general finding of second language acquisition research, Tisdell found that pupils' progress was not steady and always in the one direction but was characterised by phases of: acceleration – stagnation – slowing down. In year 4 'a marked change in their willingness to use German has occurred. Year 4 learners seemed to be less confident and seemed to regress rather than progress in German production.' (Tisdell, 1999: 30). Three reasons for this are suggested: the more abstract nature of primary school science at that stage; the teacher allowing more use of English; and increased emphasis on reading and writing in German at the same time as literacy in English was getting a big push. By year 5 however, after adaptations by the teacher, the learners had moved out of their regressive phase and appeared to be more confident than they had been during year 4.

It is noteworthy from the two examples above that immersion teaching creates a genuine need to communicate. This is so important that pupils will use both of their languages until they feel ready to rely mainly on their immersion language.

The study of learning mathematics through French in Australia by De Courcy and Burton (2000) is based on partial immersion at Grades 3-5. They claim (p93) that their study shows there is no doubt that 'children taught maths in French do not need to be re-taught in English in order to succeed in tests in English'. They also found,, however, it takes longer in one's second language to read and complete a test than it does in one's first language. Accordingly, children tested for mastery of subject content in a second language are likely to need additional time in taking the test, if they are to do justice to themselves.

Delayed or Late partial immersion

Extension to technical and less academic secondary schools in Germany

Helfrich (1994) describes an initiative in Germany (Rhineland-Palatinate) in which bilingual instruction was extended beyond the *Gymnasium* (academic secondary school) to two other types of secondary school: the Realschule (RS) which is a modern technical school which may specialise in particular areas such as science or languages, and the Hauptschule (HS) which is a more general secondary school offering a less academic education. Five RS and three HS were involved, with English or French being used in order to teach geography or social studies at the RS and with English being used to teach vocational studies at the HS. Two hours per week of additional teaching of the second language were allocated in Years 5 and 6 in preparation for the bilingual mode which extended from years 7-10 (RS) or 7-9 (HS). Although the pilot scheme had not been running for long enough to allow clear findings to be established, preliminary indications suggested it was operating successfully in the RS but more problematically in the HS where extensive discussion was required in order to clarify what the specific objectives of the initiative were. Despite these difficulties, there did appear to be benefits in the HS also: an increase in learners' potential for vocational mobility; their understanding of the working of the European Union, e.g. social security, employability; and greater cultural awareness.

Cold-start delayed partial immersion in Australia

A study of delayed partial immersion by de Courcy (1997) focused on two classes of learners at Grades 8, 9 and 10, the first three years of their high school in Australia. A number of core subjects were studied through French as partial immersion language: mathematics, science, social science and French. In Years 11 and 12 the classes reverted to English but with 15% for French as a subject. There was no evaluation in terms of experimental versus control groups but interviews with the learners showed they felt their marks suffered at first because of the difficulty of doing their work in French but that their marks returned to normal and they had no wish to leave the programme. They considered the work was harder and that an extra effort was needed in order to succeed. They found this to be motivating and considered the experience promoted self-discipline and good study-habits. It led to an exchange programme being developed with a school in French-speaking New Caledonia.

Business Studies to GCSE level via Spanish in England

The outcomes of the two instances of content-teaching through a foreign language in two comprehensive schools in England (Coyle, 1994) that were referred to in Chapter 2 were positive. The results for GCSE Spanish, taken one year earlier than normal, for the twelve learners at the boys' school, were 11 x A and 1 x B. Unfortunately, because of problems with the particular examination board, the GCSE examinations in Business Studies had to be taken in English, and so the future of the programme was in doubt. At the girls' comprehensive school, the 22 learners gained 19 x A and 3 x B for Spanish, taken one year earlier than normal. Their GCSE Business Studies taken in Spanish one year later were encouraging: 11 x A, 4 x B, 4 x C and 3 x D. Coyle's report confirms that, given the right sort of provision, high-achieving English-speaking learners in state schools in the UK are perfectly capable of making a major advance in their learning of a foreign language and of learning other subject-matter through this language. Coyle also identifies a number of problems. These include finding appropriate materials: e.g. geography materials in Spanish that had been written for Spanish schools tended not to be appropriate. In addition, it was of central importance to be able to gain formal certification through an examinations board, without which a scheme of this sort would be in jeopardy. Estebanez and Feltham (1996) similarly report similar findings on learners at a state school in England taking Business Studies at GCSE through the medium of Spanish.

Long-term impact in Canada

Lightbown and Spada (1991) studied two groups (Group A and Group B) of francophone learners learning English as a second language (ESL) in Quebec. Both groups had received English as a subject in their early primary school education but had not been 'immersed' in it. During Grades 5 and 6 however Group A received intensive ESL amounting to roughly half of each week, whereas Group B continued as before. A comparison of the performance of each group was taken at the end of Grade 11 (S5 in Scotland) in order to ascertain whether the intensive ESL during Grades 5 and 6 had achieved any lasting effects. The comparison took account of 'volubility' of speech, 'accuracy' of speech, 'amount of contact with English' outside school and 'attitudes to English and to English-language instruction'. The findings showed Group A as having maintained the superiority which their two years of intensive instruction several years previously had given them: for example, they produced a greater volume of English, had superior grammatical accuracy, were more likely to maintain contact with English-speakers and to use English-language television.

COMPARING IMMERSION WITH ALL-FRENCH SCHOOLS

As has already been stated, most L2 immersion classes take place as a stream within schools where most learners receive their curriculum through the 'regular' or 'majority' language (often English). There are however some schools that are entirely dedicated to the non-majority language, containing L2 immersion learners and possibly some who are in the minority L1 maintenance category. Such schools tend to be called all-French (or all-Gaelic … etc) schools. This means that the immersion language is used all of the time (except when the majority language is being taught) – in class, in the corridors and in the playground. A study by Genesee, Holobow, Lambert and Chartrand (1989)

compared immersion learners (EFI and MFI) with two other groups attending all-French schools: the Experimental Group consisting of English-speaking children and the Control Group consisting of French-speaking children. All four groups were controlled for age, socio-economic status and family background.

French language outcomes
By the end of the first year of the comparison, there were no significant differences between the EFI and Experimental groups. Both EFI and Experimental were significantly lower than the control group in French listening comprehension and on most French production scales, though they were similar in reading and some of the writing scales. The MFI group were significantly lower than the other three. By the end of the second year, the Experimental group were scoring significantly higher than the other three groups in a French mathematics test and were higher than EFI and MFI in French cloze reading and in French language arts. The control group were best on a number of other measures of French language.

English language and mathematics outcomes
The Experimental group suffered no detrimental effects in relation to their English and indeed by year two some advantages for them were emerging in this respect in English reading and in two mathematics sub-tests.

The above evidence suggests that immersion in a second language through participation in an all-X school (all-French, all-Gaelic … etc) enhances learners' proficiency in the immersion language beyond what is possible in conventional immersion settings. It takes them nearer to native speaker levels, with no loss to their command of their first language or of other subject-matter that is taught at school.

SOCIAL FACTORS AND IMMERSION PERFORMANCE

During the past thirty years of innovations in immersion education, there has been uncertainty as to how well various minority groups fare. Is immersion an English-speaking middle-class invention that is OK for socially advantaged children but less accessible to children from minority ethnic groups or from lower working-class backgrounds? In a small-scale four-year longitudinal study of French partial immersion learners in Cincinnati, Holobow, Genesee, Lambert and Chartrand (1988) focused on four groups: white middle-class, white working-class, black middle-class and black working-class. with a similar sample following the regular English-language programme. They concluded that children from lower socio-economic or from ethnic minority backgrounds can benefit from immersion education. They found no evidence that partial French immersion had been detrimental to their English, mathematics or science. In fact they suggested that participation in immersion education might have helped to diminish rather than exaggerate the effects of social class background.

HERITAGE LANGUAGES, BI-LITERACY AND IMPACT ON THIRD IMMERSION LANGUAGE

Two studies by Swain and Lapkin (1991) taken together point to one key aspect of bilingualism that may act as a springboard for learning a third language at school in Canada. Their source of interest was 'heritage language' children who were enrolled in an English-French bilingual programme at school. A range of 'heritage' languages was represented, including those from the Romance group (especially Italian, Spanish, Portuguese) and those from the non-Romance group (including German, Polish, Hebrew, Filipino/Tagalog, Chinese, Greek, Korean). The object of the exercise was to ascertain the impact of their bilingualism ('Heritage language' plus English) on the learning of a third language (French).

It was found that the learners with a heritage language tended to outperform learners whose first language was English and who were therefore learning French as a second language. Within the heritage language cohort, not surprisingly the Romance group's attainments were slightly higher than those of the non-Romance group. Two other factors were examined: social background and heritage-language literacy. It was established in fact that the highest attainments came from those learners who had acquired literacy in their heritage language (whether through their home, community or school) and who were therefore bi-literate in English and their heritage language by the time they were beginning their partial immersion in French. But could this difference in attainments be a reflection of the bi-literate heritage language learners having a socially more advantaged home background? A range of socio-economic status (SES) variables was taken into account: father's educational level, mother's educational level, father's occupation, mother's occupation. 'The results show that learners who are literate in their minority language are at least as likely to come from the lower categories of the SES variables as from the higher.' (Swain and Lapkin, 1991: 639). They conclude that: 'taken together, these two studies show an enhanced proficiency in French (as a third language) among minority language learners who read and/or write in their first language' (Swain and Lapkin, 1991: 638). They claim that the link between being literate in one's first (heritage) language and enhanced third language learning is quite clear. 'Moreover, the link does not appear to depend on generally high levels of oral-aural first language proficiency, SES or the linguistic/historical relationship between the two languages.' (Swain and Lapkin, 1991: 640).

PUPILS' ATTAINMENTS IN GAELIC-MEDIUM PRIMARY EDUCATION

Primary education through Scottish Gaelic was initially introduced on a bilingual approach, with pupils receiving part of their curriculum in English and part in Gaelic. It led to a generally positive evaluation of the Western Isles bilingual project (Mitchell, McIntyre, MacDonald and McLennan, 1987; Mitchell, 1992), though the process of language shift within the community towards English did not seem to be strongly affected. By the mid-1990s however the report by H M Inspectors (1995) found the bilingual approach (corresponding to early partial immersion) to be less successful in classrooms than the more radical Gaelic-medium approach (corresponding to early total immersion) that was implemented subsequently. In both cases classes consisted of L2 immersion and L1 maintenance pupils.

A national research team (Johnstone, Harlen, MacNeil, Stradling and Thorpe, 1999) evaluated the attainments of pupils receiving Gaelic-medium primary education in the late 1990s. Gaelic-medium (GM) pupils were compared with three groups of English-medium (EM) counterparts: in the same primary schools, the same local authorities and nationally across Scotland. The curricular areas selected for the comparison were primary school science, mathematics and English. The assessment instruments were geared to the two standard national programmes:

- the 5-14 curricular programme which allowed classteachers to assess their pupils in relation to their progress through specified national curricular levels (and in the case of mathematics and English to draw on national tests for this purpose); and

- the national Assessment of Achievement Programme (AAP) which identifies national norms of pupil achievement on an annually rolling programme: in 1996 the AAP was in science, in 1997 mathematics and 1998 English.

The main year-group was Primary 7, which is the final year of primary schooling in Scotland. This afforded an understanding of the outcomes of GM and EM education at the end of primary education. In addition, progress measures were taken on other year-groups from Primary 3 onwards.

The findings showed that GM pupils were generally not at a disadvantage compared with their EM counterparts and in addition had become highly fluent in a second language (English rather than Gaelic being the first language of most of them). Although the GM pupils were slightly behind their

EM counterparts in science, they were ahead in mathematics and more clearly ahead in English, especially in writing.

The reasons for their slight disadvantage in science are not clear, though they may have had something to do with the fact that the GM pupils' AAP assessments in science occurred very late in the summer term and science was the first curricular area to be assessed within the AAP research. The reasons for the GM pupils' clear advantage in English are not clear either; though they may have had something to do with their having become not only fluent but also literate in two languages. Perhaps an underlying metalinguistic awareness had developed as a result of their emerging bilingualism that was serving to promote their proficiency in each of their languages.

WHAT IMMERSION IN A SECOND LANGUAGE DOES NOT DELIVER

Impressive though the achievements of immersion undoubtedly are, the evidence from research shows clearly that immersion learners are not indistinguishable from peers who are native-speakers of the immersion language. In this sense, some of the more optimistic claims made in the early days of immersion – e.g. that immersion would make learners fully bilingual – are not supported by the evidence. What immersion often does produce is learners who suffer no loss in their academic learning of important other subject-matter – e.g. in science, mathematics, first language – and who have become fluent and literate in a second language. However, they do not become native-speakers, even when they make an early start by taking an early total immersion programme.

Weaknesses in form-meaning connections

Harley (1991) describes their situation: 'It is clear that although immersion students demonstrate excellent understanding of language in context, this cannot be taken as firm evidence that they have correctly identified all the form-meaning connections involved. They become adept at inferring global meaning, using clues in the surrounding discourse or in the external situation. One example of the discrepancy between global comprehension and oral production is their use of conditional forms. Grade 1 early immersion students are readily able to comprehend conditional sentences and can translate them into English, but years later in grade 10, we find some students still have trouble with conditionals in their oral production. (Harley, 1991: 15). Wesche (1990) found recurrent problems with verb-forms throughout their careers. Hart and Lapkin (1990) also found that immersion learners by Grade 12 still had weaknesses in grammar and vocabulary. Dicks (1994) found major errors in immersion learners' command of the *passé composé* and imperfect tenses in oral communication.

Bel Gaya (1996) and Arnau, Bel, Serra and Vila (1996) compared the linguistic skills in Catalan and Spanish of 1347 pupils finishing Grade 8 of primary education. 'Data show us that if great headway has been made in the knowledge of the Catalan language, former results having greatly improved since the previous application of the Catalan test in 1984, on finishing obligatory education, students in Catalonia continue to have a greater mastery of Spanish than Catalan. The objective laid down in the Linguistic Normalisation Programme has therefore not been fulfilled. Only one sector of the school population reaches that goal: Catalan-speaking students in Catalan schools. If we want to fulfil the objectives laid down we will have to continue encouraging the Catalanisation of schools in Catalonia, and this calls for the constant promotion of immersion schools.' Bel Gaya, 1996: 42).

Possible reasons

Three broad reasons may be suggested for the gap between the levels reached by immersion learners and by native speakers. First, native speakers begin from birth and their acquisition of their first language is instinctive; this cannot be the same with immersion learners. Second, most immersion learners have only limited exposure to a range of native speakers and so their command of the language is inevitably less complete. Third, immersion methodology (and this appears particularly to have been the case in Canada) tended to rest on the assumption that would over time absorb the rules of this language in a natural fashion, rather like the way in which we acquire the underlying structures of our first language. An outcome of this assumption appears to be that they achieve considerable

fluency but do not always acquire a capacity for fine-tuning their grammatical system and hence tend to make recurrent errors. This phenomenon is called a 'plateau-effect' or 'fossilisation'.

Changing focus of immersion research

As a result, immersion research has in recent years tended to undergo a change of focus. It is somewhat less concerned with the relationship between input variables (e.g. those governing early, middle and late and total or partial forms of immersion) and eventual outcomes (e.g. in terms of learning of other subject matter). It now tends to focus more on processes of classroom instruction and interaction and on learners' and teachers' thinking, in order to identify strategies that will enable immersion learners to refine their grammatical and lexical systems as they proceed.

SUMMARY OF IMMERSION LEARNERS' ATTAINMENTS

Compared with non-immersion learners, most immersion-learners:

- are initially at a disadvantage in their cognitive learning at primary school since their mental processing energy is initially directed mainly to acquiring the second language
- catch up in their first language and their other subjects by the end of their primary schooling
- suffer no long-term detriment to their scholastic, cognitive or attitudinal development
- are highly functional in two languages.

Compared with native-speaker peers of the immersion language, most immersion learners:

- do not reach the same level of proficiency
- are nearest to native speakers in listening
- are most distant from them in speaking
- are fluent and competent listeners but their speech may lack grammatical control and sociolinguistic competence.

Sociolinguistic competence may be understood as the capacity to use language in ways that are appropriate to context, e.g. talking formally or politely to an unkown adult, talking less formally to a known adult, talking informally to a friend of the same age. A reason for the relative lack of sociolinguistic competence in French immersion learners arises from the fact that in many cases they do not have contact with peers who are native-speakers of French and their only or main 'role-model' for the language may be their native-speaker class-teacher.

CHAPTER 4: OUTCOMES OF IMMERSION: ATTITUDES, IMPACT AND ATTRITION

THIS CHAPTER:

- Reflects the task in the research-specification concerning:

- How pupils respond to immersion teaching.

- Documents the perceptions of learners, teachers and parents

- Reviews the impact of immersion programmes on:

- the full range of learners, including those with learning difficulties and those who are gifted

- the 'regular' English language programme

- longer-term levels of satisfaction and use

- the immersion language community

- the immersion language corpus, as immersion learners create new varieties of the language that reflect their interim command of the language and their identity..

- Discusses the causes of attrition from immersion programmes at primary and secondary school and outlines possible ways of combating this.

LEARNERS' PERCEPTIONS

Generally positive attitudes

From the first immersion experiment in Canada – the St Lambert programme which began in 1965 – findings (e.g. Lambert and Tucker, 1972) indicate that learners developed a healthy attitude towards the immersion language and towards their own language and culture.

An indication of the generally favourable learner attitudes towards the immersion education they experience is given by the Carleton Board (1996). Regardless of whether the learners had been in early or late French immersion, their attitudes (and the attitudes of their parents) were found to be strongly positive. Large numbers indicated that they would send their own children to French immersion programs, almost all of them preferring the 'early immersion' model even when they themselves had experienced 'late immersion'.

Some perceived concerns and benefits

Opportunities, expertise and training

Against this positive background, a number of research groups, e.g. Lewis and Shapson (1989), Morrison and Bonyun (1984), found that students completing their immersion programmes at school expressed three concerns. These were: a wider selection of course would enhance the programme; more emphasis should be placed on opportunities to speak the language and to use it in real life situations; the programme would benefit from more teachers who had more expertise and methodological training in their subject area.

Wider choice of courses

Major benefits expressed by the learners were: job opportunities offered by bilingualism and the opportunity of learning another language. Learners rated themselves positively on their French language skills, motivational levels and general attitudes towards bilingualism, though they would have preferred a wider choice of courses. Some had considered leaving but felt that a desire to finish after so many years kept them going. When asked why so many of their friends had left, they gave as reasons dissatisfaction with the teachers and quality of the instruction.

From 'How will I ever be able to do it?' …

In England, the comprehensive-school students in Coyle's (1997) study, when subsequently interviewed on video, reported their perceptions of learning other subjects to GCSE level through the medium of a foreign language. They found that in the initial stages they were asking themselves questions of the sort 'How will I ever be able to do this?' For them it was hard going and required commitment and perseverance. However by the end of one year, and with two more to go before their GCSE examinations, their perceptions had changed substantially. Their focus of attention had switched from the foreign language to the important subject-matter that was being taught through the foreign language, and they no longer perceived the foreign language as the problem. This is substantially the same as the perception reported by their Australian counterparts as reported in de Courcy's 1997 study (see Chapter 3 of the present report).

To … 'self-confidence' and 'aspiration'

From studies such as the two above we learn something important about the development of competence in a second or foreign language. It tends not to proceed in a steady progression but rather it goes through periods of apparent confusion and instability and then almost suddenly a new picture becomes clearer. In their authoritative study of children receiving partial immersion in Austria by means of a bilingual German-English programme, Peltzer-Karpf and Zangl (1996 report that the holistic phrases the children had learnt in the first two years preceded a predictable phase of grammatical instability which they called 'Systemturbulenz' in Grade 3 before a more creative and flexible grammatical system sorted itself out, allowing them to express themselves in more mature, correct forms by Grade 4. The teenagers in England referred to in Coyle's (1994) study went through a phase that might be described as 'emotional turbulence' until they could focus less on the language and more on content. Once this stage had been attained, learning the language to a high level was very much less of a problem. Evidence from video-recordings of these students indicates that they perceived this form of education as having given them considerable advantages. These included increased self-confidence in using another language for serious purposes and a considerable widening of horizons as to where they might undertake their study at university. One student for example who had taken Business Studies in Spanish to GCSE level intended to study mathematics at university in Spain.

TEACHERS' AND PARENTS' PERCEPTIONS

Teachers' perceptions

Day and Shapson (1996) report on a national survey in Canada of the perceived needs of French immersion teachers. The survey was designed to cover 650 schools across Canada and to include 2000 randomly selected French immersion teachers. The findings revealed a strong commitment to their learners and to the goals of bilingualism. Among their greatest sources of satisfaction were:

- seeing their learners learn and use French or become bilingual
- seeing them make progress
- the motivation of their learners to learn and their appreciation of French language and culture
- meeting the challenge of immersion.

The responses also revealed a strong commitment by the teachers to their profession and to their own professional development, including:

- wanting further professional development for themselves in respect of methods, strategies, materials and information
- taking further courses, certificates and degrees
- improving their immersion teaching in various areas, e.g. social studies, drama
- meeting their own goals for self-improvement, e.g. becoming more efficient and being happy in their work.

Parents' perceptions

A study by McEachern (1980) compared the views of parents of children at kindergarten level in French immersion and in conventional English language classes. The French-immersion parents:

- thought their children would have greater opportunities for eventual employment if their children were bilingual
- had positive feelings about their children's ability to be successful in an immersion programme
- did not feel their children would suffer in English or other curriculum areas.

The parents of the children in English language classes on the other hand were less positive about their children's capacity to cope if they were in French immersion classes. These findings point to 'a general malaise felt by the parents of English language Kindergarten children with respect to the overall growth of children in French immersion.' (McEachern, 1980: 246). Lack of information for parents was considered to be a likely cause of the problem.

Parents' views of Gaelic-medium primary education in Scotland

Among the factors that contributed to the success of Gaelic-medium (GM) primary education, it was clear that parents and schoolteachers played a major role. The GM pupils had less free-school-meals entitlement than their EM counterparts in the same school. On the other hand they had a narrower range of up-to-date materials available to them.

The research included a detailed questionnaire survey of parents. It showed that even when they themselves did not have the language they had a strong sense of Gaelic heritage, which they wished to share with their children. By a large majority they were satisfied with the quality of GM education their children were receiving, though they had concerns in respect of teacher supply, teacher support and continuity of learning into secondary school (where GM education is much less prominent in Scotland).

Earlier research reported by MacNeil (1994) showed that parents were well informed about the GM education their children were receiving. It highlighted a degree of fascination among parents in their children's progress in Gaelic, with quite often parent and child learning together.

A key issue concerning GM parents is the level of Gaelic their children acquire. As has been indicated earlier in the present review, there is a limit to what may reasonably be expected of immersion in a second language when this is set in the context of a school where most pupils learn though the L1 majority language. As a result of parental demand, an all-Gaelic school has been established in Glasgow, perhaps a forerunner of others. It will be interesting to see if the Gaelic outcomes of all-Gaelic primary education surpass those of Gaelic-medium immersion when this is set in schools that are also English-medium, in the way that all-French primary schools in Canada surpass those with French immersion.

IMPACT OF IMMERSION

Impact on the full range of learners

In his review of immersion research Edwards (1989) concluded that immersion could be suitable for a wide range of learners, including those who had learning disabilities, those who were gifted and those who were from minority groups. Ali Khan (1994) found that lack of strong emotional resources and of coping skill, rather than lack of linguistic skill, may be a major factor affecting those children who do not succeed in immersion programmes. The Lakehead Board of Education (1991) found little empirical evidence that removing learners with difficulties from immersion programmes made matters easier for them. Kasian (1992) found that to decrease the amount of immersion French that such learners received did not increase their proficiency in English or reduce their behavioural or emotional problems.

At the other end of the spectrum, Collinson (1989) found that gifted French immersion learners were at a disadvantage compared with gifted learners taking regular English-language programmes. A number of possible reasons for this were suggested, including the lack of training received by French immersion teachers in respect of teaching gifted children and discontinuities in the programmes that such learners received.

Impact on regular English provision

The perceived success of French immersion has had the effect of lowering the demand in some schools for conventional English-language education. The Canadian Education Association (1985) conducted a national survey of school boards and found that half of the responding boards had problems with staffing, teacher lay-off (from English-language classes) and community opposition for

French immersion during the first two years or so of the immersion initiative. Solutions adopted ranged from delaying the start of an immersion initiative or in some cases over-staffing certain schools. A study by Nagy and Klaiman (1988) provides evidence from a school board in southern Ontario. Half of the schools had suffered some loss of staff (1 FTE or more) because of an immersion initiative. Anxiety was expressed, particularly by teachers, over the possible effects that French immersion would have on the flexibility of English-language programmes. Differences were revealed between city or town areas and rural areas: in the cities or towns immersion was at 13-17% and rising, whereas in the rural areas it was at 5%. Although an underlying factor affecting the lower rural figure might have been greater resistance to French-language culture in the rural areas, the researchers considered the most likely explanation was that rural parents did not wish their children to travel far to school.

Long-term impact of immersion

Harley (1994) reviewed the evidence concerning the longer-term impact of immersion, after immersion learners had graduated from high school. With regard to their actual use of their immersion language, they tended to report most use made of listening skills, e.g. watching French-language television, but with less use of literacy skills, e.g. reading newspapers, or of speaking the language to any great extent. Nonetheless their attitudes remained positive towards French-speakers as individuals or as communities and to the use of the language. MacFarlane and Wesche (1992) found that if immersion programmes contained opportunities for contact with French-speakers (in addition obviously to the French-speaking class-teacher), then learners would be more likely to use the language for social or other purposes once their schooling was over. They reported a substantial demand from immersion learners for contacts with French speakers, e.g. exchanges with francophone peers, more field trips, more emphasis on French media and on the culture of francophone Canadians.

MacFarlane and Wesche (1995) interviewed twenty-one former French immersion learners who were now either in employment or pursuing graduate studies. Most of them considered their attitudes to French-speakers to be more favourable than those held by their English-programme counterparts. They had expected that their immersion schooling would lead them to high levels of French use in their careers and daily lives but in most cases their use of French was reported as being low. However, this did not diminish their high level of satisfaction with their French immersion experiences. Several felt that Quebec nationalists were not fully in favour of French immersion for English speakers. The authors concluded that if improving attitudes and expanding the use of French in the careers and daily lives of former immersion learners is important, then some form of intervention is required during the immersion programmes. It cannot be assumed that individuals will automatically develop positive attitudes and will make frequent real-life use of their immersion language after graduation.

Impact of pre-school immersion on the language community

As indicated in Chapter 1, one of the key purposes underlying second-language immersion with young children at the pre-school stage can be the survival and revitalisation of a minority speech community. This applies particularly if the minority language is in demographic decline.

In New Zealand Maori-medium pre-school groups (*kohanga reos*, or language nests) were established in the early 1980s and by the end of the decade some 8000 children were attending for four to eight hours per day. The leading international researcher Bernard Spolsky recorded that ‘each year some 2000 to 3000 children, many of them fluent bilinguals, start school after having been exposed to daily use of the Maori language for three or more years.’ (Spolsky, 1989: 91).

In her authoritative and comprehensive investigation of the *naíonrai* (Irish-medium pre-school groups) Hickey (1997: 189) found a ‘positive association between *naíonra* attendance and increased

home use of Irish' (Hickey, 1997: 189). She also found another significant outcome was the provision to children and their parents of a child-centred style of language drawing on nursery rhymes, action songs and games, plus vocabulary and phrases to discuss the feelings, interests and physical and intellectual needs of very young children. This kind of language is seen as vital for promoting the transmission of language from one generation to the next and as such has a vital role to play not only in each child's personal development but also in the maintenance of an Irish-speaking speech community.

Impact of immersion on the immersion language corpus

Thomas (1991) points to an interesting outcome of immersion in Welsh as a second language at school in south-east Wales. In this part of the country the numbers of speakers of Welsh as first language had declined steadily to the extent that the varieties of Welsh in south-east Wales had lost much of their vitality and were almost extinct. Welsh however was being revived in the area through Welsh-medium education, and Thomas argues that Welsh-medium schools in the predominantly English-speaking area are serving to create new varieties of Welsh. That is, children who are being immersed in Welsh as second language 'may be leading the development of certain innovations in the language' (Thomas, 1991: 53). The same phenomenon has been observed in the case of Scottish Gaelic. In both cases 'new-age' Gaelic or Welsh provokes a range of reaction. Some view it as a sign of linguistic degradation and argue that steps have to be taken to ensue that proper Gaelic or Welsh is taught, learnt and used. Others prefer to consider the 'errors' that the new speakers produce to be a sign of sociolinguistic vitality as they create their own linguistic identity.

Impact of two-way immersion

Thus far, there is not much empirical research evidence available to confirm the outcomes of two-way immersion programmes. However, Christian's (1996) review of two-way immersion in the USA points to 'their effectiveness in promoting academic achievement for minority and majority learners, along with high levels of bilingual proficiency for both groups.' (Christian, 1996: 72). Christian also quotes on-going research by Collier, one of the world's leading authorities, on non-native English-speaking learners in five urban districts of the USA which shows that the greatest educational gains are made by learners on two-way immersion programmes as compared with other models of immersion or of language provision.

When investigating the social and psychological outcomes of two-way immersion, Cazabon, Lambert and Hall (1993) found that 'by third grade learners developed friendships in the classroom quite independent of race or ethnicity.' (Cazabon, Lambert and Hall, 1993: 25). On perceived competence, a measure of self-esteem, both Spanish-background and English-background learners showed high levels of academic and personal self-satisfaction. In a follow-up study Lambert and Cazabon (1994: 4) found 'a clear preference for having friends from both (Anglo and Hispanic) groups and for mixed ethnic/racial classrooms as opposed to ethnically segregated schooling'.

The two-way approach implying equity between the two languages and their associated cultures appears to have been influential in achieving this important outcome. Christian concludes her review by claiming that: 'Two-way immersion programs provide an effective approach to educating the growing number of non-native-English-speaking learners in our schools in an additive bilingual environment that promotes L1 and English language development as well as academic progress. They promise to expand the nation's resources by conserving the language skills minority language learners bring with them and by adding another language to the repertoire of English-speaking learners. Finally, they offer the hope of improving relationships between majority and minority groups by enhancing cross-cultural understanding and appreciation.' (Christian, 1996: 74).

ATTRITION FROM IMMERSION PROGRAMMES

Attrition at primary school

Halsall (1994) reports that despite the well-documented success of immersion programmes in Canada immersion continues to be criticised by some journalists and others in the media for the loss of learners who started the programme. Her study synthesises the previous research on attrition and provides her own further data on the extent to which attrition is seen as problematic by the proponents of immersion. Parkin, Morrison and Watkin had reported (1987) that the main reasons for attrition from primary school immersion were: difficulty in understanding, speaking and reading French, difficulty reading English, relations with the immersion teacher, emotional or behavioural problems, and lack of remedial help within the immersion programme. Halsall found that a key factor according to parent respondents was the lack of provision of special education support within immersion. 'Guidance and counselling are needed to enable learners who begin the program to remain in the program at secondary school.' (Halsall, 1994: 329). In order to answer this need, Halsall argues it would be desirable to develop a body of special education students training as primary teachers who also have second-language skills. In addition, support would be needed for secondary-school teachers in the form of in-service packages. Parent and learner education was needed also: 'Both learners and parents need to understand that growth in language skills requires the use of the language both inside and outside of school.' (Halsall, 1994: 330).

Attrition at secondary school

Harley's (1991) review of immersion mentions the report of one area school board in the Ottawa area with a substantial population of immersion learners, the report indicating that between 60% and 75% of students had transferred out by the final year of their schooling. Halsall's (1991) literature review showed attrition rate to vary from 20% to 80% of learners (Halsall, 1991: 11). Among the possible reasons suggested were: lack of variety of courses; heavy workload; strong belief at secondary level that better grades would be gained through English; lack of opportunity to practise French in and out of class; quality of immersion teachers and the programme they provided; unwillingness to change schools so as to enrol in a different immersion secondary.

A Canadian Parents for French (CPF) survey in 1991 of 353 school boards, mainly those dealing with early immersion, found that granting certificates of immersion at end of secondary education was an aid to retention. An underlying cause of attrition was the lack of provision of special education support within immersion. Hence there was a case for increasing special education at primary level. The survey recommended the establishment of links with other organisations such as the Association of Children with Learning disabilities, the Association for Hearing Impaired, the Association for Head Injuries and the Council for Exceptional Children.

Obadia and Thériault's (1997) study of causes of attrition from immersion programmes in Canada found that the main reasons for drop-out were: academic difficulty, limited choice of immersion subjects and peer pressure.

Dissatisfaction with the instruction and course options also featured in Morrison, Pawley and Bonyun (1979), explaining why immersion learners chose to transfer from the programme at secondary level. Lewis and Shapson's (1989) study compared 84 learners in British Columbia who transferred with 128 who stayed. Learners transferring complained about the courses (too difficult, too many worksheets, too much grammar in isolation, lack of interesting choices in assignments, lack of opportunities to interact in French). This suggested a need for further cultural exposure and interaction with native speakers.

CHAPTER 5: PROCESSES OF IMMERSION EDUCATION

THIS CHAPTER:

- Addresses two aspects of the research specification:

- What skills and teaching materials teachers require, and
- How pupils respond to immersion teaching.

- Outlines a range of instructional strategies that are considered useful for immersion-teaching.

- Demonstrates that more recent research underlines the importance of 'analysis' as well as 'experience', the teaching of syntax' as well as 'meaning', and the development of a less 'teacher-directed' and more 'learner-centred' approach.

- Identifies differences in strategies that are appropriate for 'early' and 'late' immersion programmes and in strategies that appear to be used by 'successful' and 'less successful' immersion learners.

- Explains the reasons underlying immersion learners' spontaneous use of English (L1) in class.

- Reports on the extent to which immersion at present is considered to cater for learners with special needs, whether with disabilities, learning difficulties or gifted

- Underlines the centrality of the parents' role in their children's immersion education.

PROCESSES OF TEACHING AND LEARNING

Instructional strategies

Insight into what an immersion teacher's job entails is conveyed in Snow's (1990b) review. She suggests that immersion teachers, as compared with 'regular' teachers, have particular demands made on them in respect of: preparation of lessons; children's vocabulary development; introducing children to another culture; and personal attributes, in particular patience and flexibility. They also require skills in dealing with parents, and as such have to be well-versed in the 'why's, the 'hows' and the 'whens' of immersion. In addition a range of instructional strategies are particularly important in immersion teaching, which include:

- use of body language
- predictability in instructional routine
- drawing on children's background knowledge to aid their comprehension
- extensive use of realia, visuals and manipulatives
- review of previous material
- building-up of redundancy
- indirect error correction
- variety of teaching methods and materials
- use of clarification and comprehension checks.

Met's (1991) report identified a number of competencies for immersion teaching which included being:

- well-versed in the elementary school curriculum
- aware of how to modify their immersion language input so as to match their learners' limited comprehension
- trained to use linguistic strategies such as elaborating or simplifying their output and to help their learners develop skills in the 'negotiation of meaning'.

Process-product relations

More than teacher-fluency is required

Netten and Spain (1989) argue that when immersion programmes were first introduced it had been assumed that their success could be attributed to 'use of the target language as the language of classroom instruction'. However, they claim that much more than use of the target language is needed and that particular attention must be paid to instructional processes: ' … it does not appear to have been foreseen that instructional differences in the classroom could have an effect on the level of competence attained in the second language.' (Netten and Spain, 1989: 484). Their own prior research (e.g. Netten and Spain, 1883) in Newfoundland and Labrador had suggested that while average levels of performance (immersion French compared with regular English) may have been the same, the actual levels of achievement of individual learners may vary greatly. Their 1989 study found different processes in different classrooms, and this appeared to be bringing about different results. Productive classroom strategies seemed to consist of creating a rich language environment and widening the range of possibilities for communication. However, in some classes less verbal and more non-verbal attention seemed to be paid to lower achievers. This had the effect that they received fewer opportunities for using their immersion language in class, which in turn was likely to have a negative impact on the development of their immersion language and thereby their learning potential at primary school. The research team concluded that the conventional wisdom of immersion teaching needed re-appraisal. More than fluency in the immersion language was needed. In particular, the education of immersion teachers needed to focus on their acquisition of a deeper knowledge of classroom processes and development of a range of classroom communication skills.

Teachers' different conceptions of what language is for

Another confirmation of the importance of teaching-learning processes in the immersion classroom comes from Laplante's (1996) qualitative study of two Grade 1 immersion teachers. This suggested that the pupils' learning was very much influenced by the concept of language and language proficiency that the teachers held, since this influenced their selection of particular classroom activities. One teacher clearly held a view of language as serving the transmission of knowledge. As such, she did not favour interventions from her pupils. These tended to be ignored, refused or deflected. As a consequence the pupils' opportunities for output in their immersion language were limited. The other teacher however had a concept of language as a tool for exchanging and sharing experiences. There was more inter-subjectivity in the lessons. Her learners used the immersion language in order to share their experiences, to refine their ideas and to justify their views. This was serving to build up an extended language resource that would meet their self-initiated needs.

'Experiential' and 'analytic' teaching

Harley (1991) distinguishes between experiential and analytic teaching in immersion classrooms, building on a research review that she and others (e.g. Allen, Swain, Harley and Cummins, 1990) had previously undertaken. The two modes are set out in **Figure 5** which draws on and adds to Harley's distinction:

Figure 5
Experiential and analytic immersion teaching

EXPERIENTIAL	**ANALYTIC**
Message-oriented focus	More focus on the L2 code (e.g. grammar, vocabulary, sound-system)
Exposure to authentic L2–use in class	Clarifies form-function-meaning relationships.
L2 is the vehicle for teaching and learning important subject matter-use in class.	Provides regular feedback to help learners re-structure their developing internal representations of the L2 code
Teacher tends to do much or most of the talking.	Provides guidance on the use of L2-learning strategies
Assumes learners acquire the underlying L2 rule-system through 'use' and 'absorption'.	Assumes that cognitive processing is needed, in addition to experiential acquisition.
Dangers: Learners' L2 development may 'fossilise' (reach a plateau) and they may show a tendency for 'smurfing' using small number of high-coverage items (e.g. 'chose', 'aller', 'faire') rather than .develop to express more precise meanings	Dangers: May over-emphasise accuracy; may pay too much attention to form rather than to form-function-meaning relationships

Adapted from Harley, 1991.

Good practice would ensure that both modes were activated in order to avoid the dangers that arise if one of them is allowed to dominate the other.

In addition to the experiential-analytic dimension, Harley argues there are other dimensions that may be used in order to locate different approaches to immersion-teaching. The three dimensions comprise:

Dimension 1: Experiential …….. Analytic (as illustrated above)

Dimension 2: Implicit ……... Explicit

Dimension 3: Inter-lingual …… Cross-lingual.

Too much emphasis on **implicit** processes may produce learners who fail to meet the rigorous demands of accurate speaking and writing, whereas too much emphasis on **explicit** processes may lead to over-use of abstract terminology which may not be adequately understood.

Use of L1 to establish cross-lingual meaning

In immersion teaching when first introduced it had been assumed that meanings would be communicated within the immersion language, i.e. **intra-lingually**. Harley argues however that a recent development in immersion classrooms has been the legitimisation and use of **cross-lingual** strategies including translation to and from the first language. Observations of immersion classrooms

for some time had indicated that young learners spontaneously used their common first language with each other in order to make their own connections with the meaning of what their teacher was saying to them in the immersion language. She concludes: 'This study provides evidence that through analytic teaching that includes a cross-lingual element, it is possible to undo so-called fossilised errors' (Harley, 1991: 250).

'Semantic' and 'syntactic' processing

Kowal and Swain's (1997) account of immersion classrooms argues that teachers have generally enabled their learners to engage in **semantic processing**, e.g. to derive meaning from what the teacher says in the immersion language and to express themselves in that language, but that **syntactical processing** (implying some command of structure) has lagged behind. They claim that immersion learners approximate to native-speaker levels in the comprehension skills of listening and reading but not so in the productive skills of speaking or writing. This points to the importance of finding ways of integrating content and language teaching, rather than always treating them separately, and it implies introducing a 'focus on form' into the teaching of important subject-matter.

One possible way of improving learners' productive command of structure is through Swain's 'output hypothesis'. This assumes that simply providing opportunities for speaking in the immersion language does not result in the gradual acquisition of accurate output. Instead, tasks have to be designed that encourage learners not only to engage in extensive speaking but also to seek systematic and relevant feedback from their peers and teachers, thereby improving their syntactic processing skills.

Dictogloss

A specific technique that proved helpful in the encouragement of syntactic processing was the 'Dictogloss'. This consists of reading a short dense text at normal speed to learners who take notes. They then work together in groups in order to reconstruct the text from their shared resources. The various group-versions are then analysed in whole-class sessions, with the learners discussing the strengths and weaknesses of their own versions. The elements that are likely to be jotted down as the text is being read are vocabulary (e.g. nouns, verbs and adjectives) and phrases. This means that in the reconstitution phase in groups the focus is likely to switch somewhat to structure and linking elements, thereby encouraging the learners to focus on syntactic and morphological form.

Immersion teaching and learner-centredness

Halsall and Wall (1992) report a widespread move in western countries towards learner-centred approaches to education at school. They claim this was happening in Canada also, in the regular English-language programmes but they noted a perception that this was less the case in French immersion classes. There, it was thought the teacher tended to remain more in an instructional mode, in order to provide the L2 input that the learners needed but also because in the initial years of their immersion education learners would not possess the skills in their immersion language that they would need for full participation in a child-centred approach. A team of eight 'judges' was appointed, with backgrounds in education, psychology and speech pathology, to develop a 'child-centredness scale' consisting of several dimensions including: direction; physical organisation; active learning; subject integration; assessment/evaluation; choice; curricular flexibility; initiative; individualisation; language; and classroom management. The report provides only an initial indication since the study was small-scale, but it was established that the immersion classes were in fact more child-centred than the regular English-language ones. Because of the small size of the sample, the researchers advise caution, but nonetheless: 'the results clearly put to rest the belief that French immersion classes cannot be as child-centred as the child-centred regular program classes' (Halsall and Wall, 1992: 69). An excellent example of a learner-centred immersion approach with students at high school in Australia is given by Read (1999). The group received 5 hours per week of partial immersion in

Indonesian for Indonesian and social education, amounting to 20% of their time. The teacher agreed certain procedures with the class on how they might cope with problems in comprehension:

- There would be no compulsion for them to speak Indonesian, though the teacher would not speak any English.
- They could work in pairs to check with each other that they had understood what the teacher was saying.
- They should keep asking questions until they felt confident they understood what the teacher was saying (Read, 1999: 4).

This generated a very different classroom approach, with students (particularly the boys) acting 'as self-appointed interpreters for the rest of the class' and with the lessons proceeding as a guessing game. 'The proportion of time on task was very high; in fact, the most noticeable aspect of the immersion classroom was the learners' intense involvement and interest.' (Read, 1999: 6).

Pedagogy of 'late' immersion

Bridging the L2 proficiency gap

Johnson and Swain (1994) argue that one of the differences between early and late immersion is that in late immersion the learners' first language is needed to a greater extent. Teachers of regular (non-immersion) programmes are expected to follow the regular curriculum at normal speed, and the same applies in immersion. However, with late immersion learners there is an 'L2 proficiency gap', which needs to be closed before learners are able to tackle cognitively demanding tasks. In order to close this gap, Johnson and swain argue that the learners' first language is not only helpful but necessary. This applies not only in Canada (where much of Swain's research is located) but also in Hong Kong (Johnson). In Hong Kong it was concluded that only academically able and well-motivated learners are likely to benefit from late immersion, and that learners switching from a Chinese-medium to an English-medium education need an intensive bridging course which will take them towards the immersion language threshold level. Late-immersion teachers therefore need training in intensive teaching and in strategies for using the learners' first language in support of, rather than as a substitute for, the second language they are learning. Johnson and Swain report that late immersion in Hong Kong was not meeting the expectations of the community in relation to English proficiency, though it was achieving this in Canada**.**

Key strategies for investigation by research

More generally they recommend that: 'the teaching strategies of experienced and effective late immersion teachers should be investigated to determine:

- How the problem of a massive L2 vocabulary deficit is being overcome.
- How time and opportunities are being created for students to develop speaking and writing skills, and by what means.
- What strategies are being used in maintaining the L2 as the comprehensible medium of instruction.
- What language support strategies assist students to maintain the L2 interaction with the teacher and with each other, and in extended writing.
- What strategies work best in preparing or adapting materials to match the L2 proficiency of students at the beginning of a late immersion programme.
- Whether there is a role for the L1 in late immersion classrooms, and if so, how the L1 is best used in support of the L2 and not as a substitute for it.' (Johnson and Swain, 1994: 225).

Teaching vocabulary in immersion classes

Lapkin and Swain (1996) provide a detailed qualitative account of how one expert immersion teacher taught vocabulary. Previously their research had found that vocabulary instruction in immersion classes was mainly through incidental rather than formal learning, being associated with the study of texts in the reading part of French Language Arts. The main focus was on meaning, with less attention paid to words in relation to morphology, syntax, phonology, discourse or sociolinguistics. However, they claim that studies of the processes of effective instruction in bilingual or immersion settings from primary school to university (e.g. Wong-Fillmore, 1985; Wesche, 1993) yield a different picture and that in effective immersion classrooms:

- teachers are consistent and natural in their use of the target language
- teachers communicate clearly their objectives and expectations
- lessons are 'routinised' or scripted so that new vocabulary and structures are signalled by characteristic patterns
- teachers provide multiple opportunities for learners to hear and digest new linguistic material through paraphrase, repetition and exemplification
- teachers often repeat learner utterances, so that new vocabulary items are reiterated in several appropriate grammatical and discourse contexts. (Lapkin and Swain, 1996: 246).

In their particular study the expert immersion teacher had a clear and systematic approach to the teaching of vocabulary. They were able to describe this as planned, systematic, written and oral, building on learners' prior knowledge, direct and with focus on both meaning and form. By 'direct' they meant that the teacher exercised some control over the choice of vocabulary to be taught.

Instructional materials and prior preparation

Met and Lorenz (1997) report that historically immersion teachers in the USA have found identification of instructional materials a major challenge. They claim that more recently materials have become more numerous but that obtaining appropriate materials is still an issue. There is greater variety available for French and Spanish immersion than for other languages because of Canadian French immersion and American-Spanish bilingual programmes.

Peters (1994) reports on the use of laser-discs in bilingual secondary education in Germany. The use of laser-discs gives random access to relevant subject material which is likely to improve learners' knowledge acquisition, presentation and repetition.

For readers of German Whittaker (1994) provides some excellent examples of how learners in years 5 and 6 at school in Germany were prepared for English-German bilingual instruction from Year 7. This reinforces the assumption that the success of late partial immersion is dependent on thorough prior preparation by means of an enhanced or intensified language programme.

L1 and L2 immersion reading

Cashion and Eagan (1990) conducted a three-year longitudinal study of learners engaged in total French immersion. Although the learners had received formal instruction in French only, they began to read and write spontaneously in their first language (English) and used a range of strategies to enable them to achieve this.

Noonan, Colleaux and Yackulic (1997) examined the effects of the order of languages in which learners were taught to read in early immersion classes. Two matched samples of Grade 3 French immersion learners were involved, with one being introduced to reading in French and the other to reading in English. The results showed no significant differences in English or French reading between the two groups by the end of Grade 3. The authors claim the study suggests that transfer of reading skills from one language to the other works in either direction.

The problem of Grade 1-3 children who drop out of immersion and enter the 'regular' English language programme is discussed by Harley (1991). She states that questions have been raised about the incidence of reading problems among children who transfer out in the early grades. Referring to Morrison et al (1986) she found that reading skills were a factor in 64% and 80% of cases respectively in two Ottawa education boards. However, according to Harley: 'There is no evidence that the reading problems of these children were caused by the fact that initial literacy skills were introduced in the second language. Had they been in the regular program, they might have had similar problems. And, in some cases the unavailability of remedial help appears to have contributed to parents' decisions to withdraw their child. The issue is one that requires more research, however. The relative merits of providing early reading instruction in immersion need to be examined, including the option of beginning reading instruction in English – an option which has in fact been adopted in one province (Manitoba).' (Harley, 1991: 11).

Relatively little high-quality research appears to have been published on the roles of computers and multimedia in immersion classes. It is knows that this is an area attracting much interest at the level of innovation and development, so it should not be long before high-quality research studies are adding to our knowledge of this potentially vital area. However, one such study already in existence is by Edwards,, Monaghan and Knight (2000) who evaluated the impact of bilingual multimedia storybook with pupils aged 6-10 in both Welsh-medium and English-medium schools. They found that it was not the computer alone which had a positive impact but also the discussions which it generated among the students and also with the teacher. They concluded that bilingual interactive software of this sort,, backed by the discussions it generated, had particular benefits for the students' awareness of language.

Strategies used by 'effective' and 'less effective' immersion learners

In an interim report of their six-year longitudinal study of the reading strategies used by early-immersion learners at Grades 3 and 4, Chamot and Beard El-Dinary (1999) found that many of these young learners were well able to describe their thinking and learning processes. This pointed to the early activation of a meta-cognitive awareness. Their study, which drew on think-aloud interviews that were audio-taped and subsequently analysed, showed differences in strategy use between more successful and less successful immersion learners, which seemed to correspond to differences in strategy use already established in older learners. There were no differences in the total strategies used by the successful and less successful learners. However, the effective learners seemed to display a variety of strategies that they tried for a particular task whereas the less effective learners seemed to cling to ineffective strategies, possibly focusing too much on detail and relying more on phonetic decoding during reading. The more effective young learners made more use of background knowledge and inferencing in order to understand texts.

Learners' use of English in French immersion classes

Evidence on immersion classroom processes in late primary is provided by Tarone and Swain (1995). They point to a tendency among immersion learners at that stage to use their first language (usually English) rather than the immersion language (French) in peer-peer interactions. Tarone and Swain argue that this phenomenon is predictable, given that the learners in question tend to have the class-teacher as their sole native-speaker model of the immersion language. This is helpful in developing

language proficiency for purposes of academic learning but it leaves their more social peer-peer language relatively undeveloped. 'Learners have not learned the vernacular style they need for non-academic purposes. The result, we claim, is a sort of diglossia in which the L2 is used for institutional and academic purposes and the L1 vernacular is used for peer-peer social interactions' (Tarone and Swain, 1995: 173). Their use of English in class therefore is not necessarily an indication of antipathy towards French. Rather it implies that their lack of contact with native-speaker French peers means that they have not yet learnt how to use immersion French for interactions among their own age-group as a marker of their pre-adolescent or adolescent identity. This helps to explain their understandable recourse to young people's English (their first language) for this purpose.

Three pedagogical implications of the above phenomenon suggested themselves to the research team:

- it may be impossible in schools to teach a peer-group vernacular form of the immersion language, so immersion should aim to deal with the language of teaching and learning

- or, schools with immersion classes should do what they can to put their immersion learners in touch with learners who are native speakers of the language, e.g. through exchange visits (if they live at a distance from each other) or joint trips to places such as museums with built-in recreational time (if they live closer together)

- or, sociostylistic variation should be explicitly taught in immersion classrooms, in order to sensitise immersion learners to informal as well as more formal varieties of their immersion language.

The same theme is further developed by Swain and Lapkin's (2000) study of twenty-two pairs of Grade 8 French immersion students working on two tasks. They concluded (p26) that 'the L1 serves as a tool that helps students … to understand and make sense of the context and requirements of a task; to focus attention on language form, vocabulary use and overall organisation; and to establish the tone and nature of their collaboration.'

Functional-analytic teaching of sociolinguistic variation

Lyster (1994) reports on a study of the teaching of sociolinguistic variation involving three teachers of Grade 8 French Immersion classes during French Language Arts over five weeks at 12 hours per week. Experimental and comparison classes were observed. The experimental classes performed significantly differently from comparison classes on sociolinguistic measures of written production, formal oral production and multiple choice. Functional-analytical teaching (emphasising accuracy and appropriateness) had improved the sociolinguistic competence of Grade 8 FI learners in at least two ways:

- by significantly increasing their ability in oral production to appropriately and accurately use *vous* in formal situations; and their ability in written production to appropriately use *vous* in formal letters, and, in the short run, to use polite closings in formal letters; and

- by significantly increasing their awareness of socio-stylistic differences in the L2, including their ability to recognise contexts as being appropriate for specific utterances, and to recognise utterances s being appropriate for given contexts.

Of the teachers involved in the study, the one who proved most receptive to functional-analytic teaching tended to provide cognitively engaging feedback which pushed learners to be more precise in their choice of words, to produce more appropriate utterances, and to reflect on their performance through subsequent analysis and discussion. He also asked questions which built on learners' previous responses, thereby pushing learners to explain and further develop their knowledge of sociolinguistic features. In this way he succeeded in fostering an interplay between 'communication'

and 'reflection on that communication' through 'discussions on language use' and 'group activities with an analytic focus'.

Learners with disabilities or with learning difficulties

Inadequacy of current screening approaches

The problems of how best to respond to children with learning difficulties in immersion programmes are well set out by Wiss (1989). Referring to a long-standing concern as to whether immersion programmes are suitable for the full range of learners, Wiss argues that a properly scientific basis does not exist for screening children in advance. Wide-scale screening at present, she argues, 'could over-identify problems and possibly exclude many low socio-economic status or less bright children from entry. On the other hand, for various reasons, some children do not do well on immersion programmes and are switched out. The negative impact on children who might perceive a switch out of French immersion as a failure on their part greatly concerns parents and educators.' (Wiss, 1989: 517).

Wiss also claims that many children experiencing difficulties in immersion would have the same difficulties in regular courses. 'Usually, these children have specific learning disabilities (LD) that include deficits in cognitive processing. Such deficits interfere with the acquisition and maintenance of fluid reading skills regardless of whether the learning environment is unilingual or bilingual. The children appear to develop adequate oral skills, with problems in the academic areas of reading and writing." (Wiss, 1989: 517).

'Children with specific disabilities' and 'children with problems in L2 learning'

She also argues however that there may be a sub-group who would have difficulties with immersion but not with the regular English programme. She draws a distinction between children with specific learning disabilities and children with problems in second-language learning, perhaps as a result of developmental immaturity. 'Developmental immaturity suggests that the maturational lag will diminish with time and that the child will have difficulties in early immersion only, and not in the unlingual program.' (Wiss, 1989: 527). She argues that specific learning disabilities 'suggest underlying cognitive deficits that are intrinsic to the child, will be likely to be present throughout the child's life, and will create problems in either a unilingual or bilingual program' (Wiss, 1989: 527). 'For developmentally immature children, early immersion may not be ideal. For children with specific learning difficulties, a late immersion or core French environment may not be appropriate.' (Wiss, 1989: 528). She specifically does not argue that learning disabled children should be counselled out of early immersion, but that 'children who may not benefit from early immersion be identified early and given alternatives for bilingual education.' (Wiss, 1989: 528).

Special educational needs of language minority students

An excellent general account of the special education needs of minority language students in respect of their first and second languages is provided by Cloud (1994) that includes sections on 'pre-referral', 'preventing erroneous referrals', 'using an ecological assessment approach within special education', 'distinguishing difference' from 'disability', 'cross-lingual assessment of disability', and 'diagnosing disabilities in students'. Similarly, Hamayan (1994) provides a general account of the language development of students with low levels of L1 and L2 literacy. Drawing on a range of research studies she concludes: 'The following classroom characteristics make for an environment that allows for literacy to emerge in a natural and efficient way:

- The classroom must be rich with meaningful environmental print.
- The construction of meaning must be the basis of all literacy activities.
- New literacy skills should be allowed to emerge naturally and in a low-anxiety environment.

- Literacy activities in the classroom must be motivating to children.

- Instruction about linguistic forms and structures should be embedded in meaningful functional language activities.

- Literacy instruction should be integrated with instruction of academic content.' (Hamayan, 1994: 298).

ADMINISTRATION AND SUPPORT

Relatively little research (most of it Canadian) appears to have been published in respect of administration and support for immersion education. In a review of the literature Dagenais (1990) found that the school principal had a central role in dealing with problems of administration and required to be sensitive to the complex political implications of immersion education. Lamarre's (1990) interviews with anglophone elementary school heads found they did not consider their lack of French to be a hindrance. However, they needed guidance in how to evaluate and support the French immersion staff in their schools and in how to evaluate the learners' achievements. Their concerns were: availability of resources, the integration of francophone teachers into what were mainly English-language schools and the transfer of immersion learners into the regular English language programme. A national survey of education boards administering French immersion (Canadian Education Association, 1992) found that key issues were: staffing, special services, programme design, teaching strategies, enrolment and in-service support. Safty's (1992b) study found that it could prove difficult to establish a positive school ethos if anglophone immersion teachers in the school did not perceive their principal as supporting them in their professional development needs, and concluded that bilingual administrators of schools with immersion classes were ideally to be preferred. Poyen and Rogers (1991) found that francophone immersion teachers tended to feel that the general attitude of the school was not entirely supportive of French immersion and concluded that positive leadership was necessary.

A school Principal's view on establishing an appropriate ethos

Writing as Principal of an immersion magnet school in the United States, Coffman (1992) attached high importance to the Principal's having at least a working knowledge of the immersion language. This enabled him to know what was going on in classrooms and at immersion staff meetings and to understand the learning and teaching processes. Being Principal of an immersion school was very hard work and often left him feeling frustrated and inadequate: 'What have I gotten myself into?' (Coffman, 1992: 156). This made it all the more important to be knowledgeable about the school's immersion goals and to be well versed in the theories of L1 and L2 acquisition and of immersion teaching. It was also important to attend to the social climate of the school, e.g. by ensuring that the immersion language appeared on all signs and displays, that telephones were answered with an L2 greeting and that at least a few L2 words were inserted into all correspondence with parents.

PARENTAL INVOLVEMENT

Parents have a vital role to play, if immersion programmes are to be successful. This applies particularly to early total immersion, because here the parents have made a major investment, a declaration of faith in having their child educated through a language that is not the language of the home. In some cases this may be a language in which they they may have little or no fluency. Their contribution can take many forms but at the heart of it lie:

- establishing a role for the home in ensuring that their children's first language is not disadvantaged by their being educated at school through a second language

- offering moral support, encouragement and confidence to their children in their learning and use of their immersion language
- supporting the school, lobbying for resources and encouraging parents of potential immersion children.

In Scotland, Gaelic-medium primary education would not have come about if it had not had the strong support of parents who indeed have been a major driving force behind it, and a number of parents' associations for Gaelic-medium education have been formed. In Canada the Canadian Parents for French (CPF) is the national network of volunteers who promote and create opportunities for young Canadians to learn and use French, and has over 200 branches across the country. Although its support for French covers other forms of education including Core French (French as a subject), CPF has been particularly supportive of immersion. They have produced an impressive series of brochures, videos, pamphlets and even books that provide a wealth of high-quality information. One of their 1996 pamphlets for example is entitled: *French Immersion in Canada – Frequently asked questions.* The writer is André Obadia of Simon Fraser University, British Columbia, who is an international authority. His text (Obadia, 1996) provides authoritative responses to the following questions:

- Is French immersion for all children?
- How good will my child's French be?
- Is my child going to lose out in English or in subjects taught in French?
- How can I help at home?
- Should a child be transferred out of French immersion?
- Is there learning assistance in French immersion?
- Should I register my child in early immersion or in late immersion?

As an example, here is how he responds to parents in respect of the second question:

'How good will my child's French be?'

The level of French will vary from one child to another in the same way as performance in mathematics, for example, will vary from child to child. Some students speak French making many mistakes while others might be taken for mother-tongue French speakers.

The language skills of French immersion students are consistently superior to those of core French students (who study French for 20 to 50 minutes per day). In general, immersion students' French oral and reading comprehension skills (receptive skills) will be almost on a par with those of native French speakers. Speaking and writing in the second language (productive skills) may not be as advanced as their comprehension (receptive) skills. We must remind ourselves that French for these children is, after all, their second language and that English is the predominant language in their environment..

To dwell too much and too critically on the quality of French spoken by immersion students is often a red herring because it ignores the fact that immersion students not only communicate effectively in French but also learn the skills of communication: selecting the right words with the right nuances, adapting communicative strategies to get the message across, cracking the right joke without making a cultural or linguistic gaffe, and establishing a positive environment by creating a friendly atmosphere with the native speaker.

It will take years of immersion schooling before your child will reach such a level of achievement and comfort in a second language. As an example, imagine yourself able to understand Chinese spoken by a native speaker at a normal speed and that you are able to communicate, in a normal way, albeit while making some mistakes with that person. Wouldn't that be wonderful?

French immersion teachers and parents should constantly seek out opportunities for the children to use their French with mother-tongue French speakers. The new technologies (Internet, video-conferencing, multimedia materials etc.) will help students to establish links with Francophone communities around the world. These opportunities for interaction should help students to improve their sociolinguistic skills.

Canadian Parents for French, 1996

In addition, references are given for twenty-four research texts that parents might wish to follow up. The CPF book: *So you want your child to learn French!* (Fleming & Whitla, 1990, Eds) is similarly written in an easily readable yet serious style and contains a wealth of relevant research-based information.

CHAPTER 6: IMMERSION IN SCOTLAND?

THIS CHAPTER:

- Reviews a small number of key factors that it would be essential to take into account if immersion were to be extended to other languages in addition to Scottish Gaelic:

  - An underlying socio-cultural rationale
  - Parental involvement
  - Articulation of local and national planning
  - Teacher supply, education and development.

- Considers the arguments for and against an 'early start'.

- Provides an overall 'immersion map' of the key factors associated with successful immersion, comprising:

- Addresses a range of cost-factors relevant to an extension of immersion education in Scotland.

- Sketches out three from a range of possible models of L2-immersion for Scotland:

- Delayed immersion: Primary 5/6-7
- Bilingual subject-teaching for fast-track students: Secondary 2-4
- 'Virtual' two-way partial immersion: post-16

- Locates possibilities for immersion within the context of impending major policy initiatives in 2000/2001, in particular: the Action Group on Languages (Scotland), the Nuffield Inquiry (UK) and the European Year of Languages (2001).

CONDITIONS FOR SUCCESSFUL SECOND-LANGUAGE IMMERSION

From the evidence of the international research and the Gaelic research in Scotland, certain key factors stand out clearly as conditions for the success of L2 immersion. Much depends of course on whether an immersion initiative is taking place within one school or is intended for wider generalisation across schools. If the latter, then a range of important factors must be addressed and the final chapter is written mainly with this assumption in mind.

Underlying socio-cultural rationale

A key socio-cultural reason underlying immersion in Gaelic, of which parents and teachers are acutely aware, is the maintenance and revitalisation of a Gaelic speech community. Without immersion at primary school, Scottish Gaelic would be likely to go out of existence as a language that people use in their everyday lives. This sort of reason would not apply to immersion in (say) French, German, Spanish, Italian or Urdu in Scottish schools. All of these are major international languages that do not depend on immersion in Scottish schools for their continuing existence.

Accordingly, for immersion in languages other than Gaelic to succeed in Scotland, a different socio-cultural justification would have to be found. If immersion in these languages were introduced

'simply' as an exciting educational innovation but without a strong socio-cultural driving force behind it, I am sceptical as to whether it would engage the support of parents and the wider community sufficiently for it to succeed.

Nonetheless, I believe there is a good case for encouraging local authorities to consult with parents and schools in order to introduce and monitor a range of immersion schemes for modern languages. Two justifications stand out:

A new infrastructure for languages

First, our mainstream modern languages provision is manifestly not delivering the goods. There is therefore an undisputed need to find a new pedagogy for languages (as was the case in Australia, as reported in chapter 1). This is not because of any major failings on the part of teachers. It has to do with the limited amount of time available for modern languages from P6 to S4, and the 'drip-feed' approach by which this limited time is distributed. Even with very good students, this does not deliver a level of L2 proficiency with which they are satisfied (McPake, Johnstone, Low and Lyall, 1999). By extending the time, intensifying the experience and posing the higher intellectual challenge of coming to terms with important subject matter through the L2, immersion offers one route to this new pedagogy.

A multilingual identity in a mobile, multilingual Europe

Second, Scotland forms a small part of the wider and expanding European community. An immersion approach would serve to promote a multilingual European identity for Scottish pupils, making it much more possible for them to benefit fully from the educational, vocational and cultural mobility that pupils and students elsewhere in Europe take for granted.

Immersion offers a higher level of languages proficiency than what it would be reasonable to expect from 'regular' mainstream modern language provision. I suspect the above two reasons taken together could provide a sufficiently compelling justification that would encourage some but not all parents to make the leap of faith and invest in a bilingual education for their children.

Parental involvement

The immersion research in Scotland and Canada points clearly to a major role for parents. Without their active participation it is unlikely that immersion initiatives in Scotland would succeed. This would apply particularly to 'early immersion', since it is here that parents are exercising a fundamental choice on behalf of their children.

It follows that a key condition for successful immersion scheme would be:

- Are parents deeply involved? Do they support the school in fund-raising for materials and resources and in enlisting the support of native speakers of the immersion language, whether living in the local community or elsewhere? Do they push the school to assume high aspirations for its immersion programme? Do they form parents-groups and associations that lobby at national level, e.g. for an adequate supply of teachers and for appropriate teacher-support?

The evidence of the national research (Johnstone *et al*, 1999) shows Gaelic-medium parents to have been highly successful in this regard.

ARTICULATION OF NATIONAL AND LOCAL PLANNING

Burns and Olson (1989) argue that across Canada gains have been made in immersion teaching but 'current practice is happenstance' (Burns and Olson, 1989: 502). They argue for more planning at ministerial level 'so that there would be a gross sorting out of a finite set of options to standardise

possible offerings by respective boards. Such standardisation might include items such as fixing entry levels for various programs, generating lists of expected program support materials, types of evaluation and so on. With this specification individual units at lower levels – boards, schools, teachers – could have a reasonable expectation of how programs should generally fit together and some definable level of comparability of ways to achieve this (Burns and Olson, 1989: 504).

In Scotland it is inconceivable that immersion initiatives would succeed within the state system without the active authorisation and collaboration of the national and local authorities. Their role would include: the legitimisation of immersion with the profession and the wider public; articulation of immersion outcomes with mainstream national curricular levels; accreditation and certification of immersion achievement in national examinations; provision of appropriate materials, contacts and information technology; support for teachers' continuing professional development; development of standardised tests, evaluation, quality assurance and research. These measures would allow immersion as implemented in Scotland to be monitored and evaluated and its specific processes and outcomes understood in comparison with those of 'regular' mainstream majority L1 education

Teacher supply, education and support

Obadia and Martin (1995) report a near-crisis in the supply of French immersion teachers in Canada during the early 1990s, arising from the substantial expansion of immersion programmes across the country. Indeed, a prior article by Obadia (1989) was entitled: 'La crise est arrivée.' However, a national survey in 1995 showed that the problem had been reduced as a result of a number of complementary measures:

- stabilisation of the growth-rate of immersion programmes
- concerted efforts on the part of school districts to respond to the needs of the programmes
- a growing number of Faculties of Education training French immersion teachers
- special incentives. 'One ministry said that the province now has less difficulty because its school boards offer very high salaries and excellent benefits.' (Obadia and Martin, 1995: 87).

However, two problems remained:

- a lack of immersion 'supply teachers' and of teachers for 'speciality areas' (e.g. 'music' and 'learning assistance' were mentioned most frequently) and
- a serious lack of teachers specifically trained to teach immersion classes.

Even though the shortage of teachers had been reduced, the main concern appeared to be the quality of immersion teachers rather than the quantity. The above message from Canada, an officially bilingual country which has strong socio-cultural reasons for implementing immersion programmes, suggests that it would take a long time to establish a substantial corpus of immersion schools in Scotland, were this to be considered desirable.

Centrality of the L2 immersion teacher

The central factor in the success of any immersion programme has to be the immersion teacher. If a local authority in Scotland wished to implement an immersion scheme, then, in order to avoid attrition from the programme (with possibly ensuing problems for pupils in transferring across to the mainstream English language programme within the school), it would be important to be confident that a sufficient number of appropriate teachers were available. They would need to be: native (or highly fluent) speakers of the immersion language, GTC registered, sufficient in number to allow the school to maintain the immersion scheme from the particular year-level at which it begins, committed

to immersion education, knowledgeable about its underlying principles and about children's L1 and L2 development, and able to draw on a range of general and immersion-specific teaching strategies. Certain personal qualities could also be important, e.g. capacity to withstand feelings of isolation (from mainstream colleagues in the same school) and uncertainty (about the eventual outcomes of the scheme); a capacity to inform, reassure and enlist the support of parents; and a disposition to be proactive in order to ensure that the immersion pupils were put in regular contact with native-speaker peers (by 'real' or by 'virtual' means) and that 'immersion' was projected within the school and its local community as a key marker of the school's ethos and identity.

This ideally would imply support at both pre- service and continuing professional development levels from teacher education institutions, local authorities and national agencies.

A clear implication of the above is that, if immersion schemes were to receive the go-ahead and to become a sustainable feature of education in Scotland, all of the key stakeholders would require to be involved. This would necessitate a key role from the start not only for national bodies such as SCCC/SCET, SQA and Scottish CILT but also for local authorities and for teacher education institutions in respect of the supply, the initial education and the professional development of teachers both for immersion-teaching and for immersion-learner support.

Is an early start essential?

The answer is 'probably yes', if the immersion language is Scottish Gaelic, and 'perhaps desirable but certainly not essential' in the case of other possible immersion languages. The research findings outlined in Chapter 3 point to 'early total' immersion as delivering a somewhat higher level of proficiency in the immersion language than other models such as 'delayed partial' immersion. Given that immersion in Gaelic is not only for the benefit of each individual child but also for the survival of the speech community, it follows that the strongest model should be adopted. A credible speech community after all must be able to draw on the intuitions and experiences of childhood as mediated through the community language. Indeed, it is because even the strongest model of early total immersion does not produce native speakers that parents have invested in pre-primary Gaelic groups and have sought an even stronger model of primary education in the form of all-Gaelic schooling.

However, the same need does not apply to possible immersion in other languages in Scotland. Since all forms of immersion deliver higher levels of proficiency than arise from teaching the language as a school subject, it is not unreasonable to consider 'delayed' and 'late' versions of immersion as serious options, particularly as they will cost less and will pose fewer demands on staffing and on continuity of instruction and learning.

'The younger the better': a misleading claim

It is commonly claimed that young children are somehow better suited to second language acquisition than are older learners, hence 'the younger the better' and 'start them early'. This is based on the assumption that a universal and innate capacity of human beings for language acquisition begins to atrophy at around the onset of puberty. In fact, the reality is more complex. Acquiring another language implies many things: for some of these young children appear well suited, for others older learners are favoured.

In the year 2000 three studies were published which in one way or another reviewed the international research evidence on the age factor and in particular the assumption that 'the younger = the better (Marinova-Todd, Marshall and Snow, 2000; Scovel, 2000; and Nikolov, 2000). All three, though not at all opposed to early language learning,, recommended caution in justifying this by means of 'the younger = the better' argument', based on the so-called Critical Period Hypothesis which asserts that, as in first language development, young children have a special capacity for acquiring other languages but that this atrophies with the onset of puberty, after which they are no longer able to acquire other languages with the same ease. In countering this assumption, Marinova-Todd *et al* in fact claim (p27)

that: 'hard data make it clear that children learn new languages slowly and effortfully- in fact with less speed and more effort than adolescents or adults', while Scovel (p330) claims that: 'It should be obvious that,, given the conflicting evidence and contrasting viewpoints that still exist, parents,, educational institutions, or ministries of education should be exceedingly cautious about translating what they read about the CPH research into personal practice or public policy.'

In fact,, there are good reasons for making an early start, but it is important to be clear what they are. In a previous publication (Johnstone, 1994) I outlined five arguments that favour younger learners and five that favour older learners. These are set out in **Figure 6** overleaf. If L2-learning were a race taking place at school between two groups ('young' and 'older') in order to establish which group would make most progress in the same amount of time, then the older group would be the clear winner. This would be because the advantages they hold as set out in Figure 6 are the ones that count most in formal institutional contexts such as schools where classes have one teacher and over twenty learners.

However, it can be misleading to view L2-learning as a race between different age-groups. The real advantage that younger learners enjoy is that over time they have access to both sets of experiences: the young and the older. This does argue ideally for some form of early start, but only provided that high-quality teaching and continuity can be assured to enable pupils to obtain the cognitive and academic benefits of L2-learning to which older, more mature learners have access.

Figure 6
Younger and older L2-learners

YOUNGER L2-LEARNERS	OLDER L2-LEARNERS
An early start offers them more time overall for developing L2 competence.	Tend to have a clearer sense of why they are learning the L2
Find it easier to acquire a good pronunciation and intonation.	Are able to draw on their wider knowledge of the world and have a wider range of concepts at their disposal.
Are able to absorb language naturally and intuitively when they experience it in natural interactive contexts.	Are better able to negotiate meaning because they have learnt how different types of discourse work, e.g. conversations, discussions, debates, reports.
Have fewer obvious inhibitions and anxieties about language learning than adults. Don't mind appearing somewhat foolish.	Are more capable of understanding and applying grammatical rules. This helps them particularly in L2 reading and writing.
An early start has a more formative influence not only on their L2 development but also on their personality, attitudes, view of the world and sense of identity.	Have a wider range of more advanced learning strategies, including those that draw on L1 literacy such as note-taking, i.e. are more efficient learners.

Adapted from Johnstone, 1994

'Younger' compared with 'older' in 'naturalistic' and 'institutional' contexts

The age-factor in second-language learning has been extensively researched and one of the leading international authorities, David Singleton, concludes: 'the younger the better, in the long run' (Singleton, 1989; Singleton and Lengyel, 1995). I believe this to be entirely consistent with what I have included in Figure 6 above. He claims that in 'naturalistic' contexts adults will initially acquire an L2 more quickly than children but that children will predictably catch them up and surpass them. In institutional contexts on the other hand he claims that older learners retain their advantage for much longer. This is because in institutional contexts the amount and intensity of L2-exposure are much

less than they are in naturalistic contexts. As a consequence younger learners will take longer to catch up 'in the long run', and will only do so if robust strategies for ensuring continuity within primary and from primary to secondary are in place.

It would be a mistake to assume that the only answer to the manifest problems in modern languages that exist in Scotland lies in 'early total' immersion. In my view, though this would hold many attractions, other immersion options might possibly be more feasible: such as 'delayed' or 'late' partial immersion'. The research evidence of Chapters 3 and 4 suggests that these options tend to be more suitable for pupils who have acquired a good level of L1 literacy and have shown clear evidence of academic ability. Provided suitable strategies for 'late immersion' are developed in order to close the L2-proficiency gap' (see Chapter 4), pupils of this sort 'fast-track' forward in order to achieve much higher levels of L2 proficiency than are achievable in the conventional L2-as-subject model.

What then are the key conditions for the implementation of successful L2-immersion programmes? These are set out in **Figure 7** overleaf.

IMMERSION IN SCOTLAND: COST FACTORS

It has not been possible to identify any research reports dealing with the costs of immersion education in other countries. The extent of financial support for Gaelic-medium education in Scotland is already known. The recent national research (Johnstone et al, 1999) nonetheless suggests that more support is needed for books and other material dealing with subject-matter in Gaelic, since Gaelic-medium classes enjoyed less extensive materials resources than their English-medium counterparts. Another major financial problem concerns teacher supply, though this is not exclusively a financial problem, it is at least as much a problem of the Gaelic community's having a small population of fluent speakers on which to draw not only for teaching in schools but for other purposes in life also, such as working in the Gaelic media.

Another way of looking at the costs of Gaelic-medium education would be to ask oneself what would happen to the language and its speech community if there were no national funding for Gaelic-medium primary education and as a consequence it was not taking place. The almost certain cost would be the demise of the language. As such, the financial cost of Gaelic-medium education is small compared to the benefits it brings, not only to children's linguistic, cultural and cognitive development but also to the maintenance of one of Scotland's indigenous heritage speech communities.

Are there possibilities for immersion education in respect of other modern languages? One local authority council has drawn up a plan for a partial immersion programme in French, to begin in Autumn 2000, probably in one primary school initially. If partial or even total immersion in French, German, Spanish, Italian or Urdu were to become possibilities for implementation across a number of schools, what factors would be likely to influence the costs of the operation? The following areas of cost seem evident:

Costs of obtaining suitable material

It is true that attractive and interesting material could be obtained and customised from immersion programmes in other countries or from France, German, Italy or Spain themselves. Both of these possibilities already happen to some extent. However, in order to be fair to the children taking such courses, it would be essential to prepare original material geared directly to the 5-14 programme and its assessment via national tests that were on a format and of a standard comparable to what is available in the English language for each curricular area concerned.

Figure 7: Conditions for successful L2-immersion.

PROVISION FACTORS	PROCESS FACTORS	LEADING TO OUTCOMES
Time **A** much larger commitment of time (both within each week and over the years) than 'L2 as a school subject'	**Focussing on a clear aim** Teachers and pupils work towards additive bilingualism and biculturalism and to the development of children's bi-literacy, with due regard paid to children's L1, both at school and home	**L2 proficiency** Pupils achieve a much higher level of L2 proficiency than their counterparts who learn the language as a school subject
Intensity However, the larger amount of time is not at the expense of other curricular areas, because the L2 is used for learning other subject matter, thereby intensifying the use of the L2 considerably	**Pedagogical approach** Teachers provide a range of appropriate L2 input. They interact with pupils so as to elicit language from them. They encourage pupils to experiment with a variety of L2 output, and to develop skills in monitoring their output in respect of its accuracy appropriateness and effect.	**Learning of other subjects** Pupils are not disadvantaged in having learnt important subject-matter through their immersion language.
National & local authorities and TEIs These provide pre-and in-service education and support; plus legitimisation, accreditation and certification; plus national or local funding and support, e.g. standardised tests, evaluation, quality assurance, research, so that immersion may be evaluated against 'regular' mainstream majority L1 education.	**Pedagogical skills and strategies** Immersion teachers have a range of verbal and non-verbal strategies for communicating meaning. They also have intensive-teaching strategies for enabling fast-track students on 'late immersion' to bridge the 'L2 proficiency gap' in terms of vocabulary and extended writing so that they can tackle cognitively demanding tasks in the L2.	**Outcomes of different models of immersion** 'Early total' immersion delivers the strongest L2 proficiency, but 'delayed/late partial' involving teaching other subjects by means of L2 at secondary school also produces higher L2 proficiency than L2-as-subject, making fewer demands on continuity and could be feasible in Scotland
Teacher commitment and expertise Teachers are committed to this form of education, are highly proficient in the immersion language and are sensitive to the processes, modalities and rates of children's L1 and L2 development.	**Learner-internal processing** Teachers engage pupils in both experiential and analytical learning. They help them to integrate skills of 'semantic' and 'syntactical' processing with an underlying metalinguistic awareness. Pupils' L1 may be used for some time as a vehicle for discussion and for thought.	**Attitudes** Pupils develop favourable attitudes to the immersion language, its speakers and cultures. They may at times need qualities of perseverance and require moral support in order to develop these favourable attitudes and avoid attrition from the programme.
Continuity of provision There is provision of appropriate teaching staff, materials and other resources not only to allow an immersion pilot scheme to be launched with a particular year-group but to allow this and subsequent year-groups to continue to receive immersion education. This may imply a build-up of immersion teaching staff.	**Contact with L1 users** Schools enable and encourage pupils to engage in contacts (real and/or virtual) with peers who have the immersion language as their L1, in order to widen their sociolinguistic and sociocultural range and develop proficiency in peer-peer interaction.	**Post-immersion benefits** Students are in a position to undertake post-school study based on their L1 or L2 or both. Their potential for employability and vocational mobility is increased. They are in a position to bring their own children up so as to be bilingual and multicultural
Learning support There is provision of appropriate learning support staff for pupils with special needs.	**Continuity of approach** As pupils progress from one year-group to another they continue to experience teaching and resources that build on their prior experiences, that stimulate their further language and cognitive development and that are appropriate to their age and stage.	
Parents A strong commitment by and involvement of parents, especially with younger children (indeed immersion in both Scotland and Canada may be viewed as being 'driven' by parents more than by any other group)		
Socio-cultural awareness An awareness by teachers, parents and pupils of the particular socio-cultural purposes that are served by immersion education in each particular country where it takes place. They need to know and agree why immersion is important.		

Johnstone, 2000

Costs of preparing teachers for immersion teaching

This would apply both to initial teacher education and to teachers' continuing professional development. The preparation would necessarily have to cover knowledge of bilingualism and of bilingual development in learners, plus principles, processes and outcomes of bilingual or immersion education. If the teachers were native speakers who had lived in Scotland for a long time, account would have to be taken of up-dating their immersion language proficiency and cultural knowledge. If they were brought across from partner European countries, account would have to be taken of their needs in coming to terms with the norms, practices and requirements of Scottish education.

Costs of putting immersion learners in regular contact with native speaker peers

If two-way immersion in the same school is possible, then the problem is solved at minimal cost. Otherwise, there would be costs in arranging for exchange or other visits and for the purchase and running of ICT equipment, e.g. video-conferencing, e-mail. In this respect, thus far very little research has been published on the use of ICT in L2-immersion contexts. However, there is an excellent short article by Birch and Poyatos Matos (1999) in which they outline what started as a triangular ICT arrangement between a French immersion school in New Brunswick (Canada), two French immersion schools in Australia and a school in France where pupils were learning English. To this were added links with another school in France and schools in French-speaking New Caledonia and Tahiti – all of them interacting by means of ICT, especially e-mail and on-line chat. A feature of the scheme was the reciprocal bilingual support that the learners offered each other, the electronic magazine that they jointly constructed and the interesting project work. This featured the 2000 Olympics in Sydney, with each partner reporting on their own country's preparations. Behind this lay the realisation that ICT had the capacity to provide immersion learners with direct access to a range of native speakers of the immersion language and to engage with them on matters of mutual interest. This was to an extent that was not possible in what might be termed 'conventional' immersion classrooms where the main or sole source of L2 input is the native speaker teacher. Behind this lay the assumption that ICT would therefore help learners to widen their sociolinguistic range, an area of language competence consistently diagnosed as weak in the case of 'conventional' immersion learners.

ICT then offers a capacity to project a European modern language as in fact not really European at all but global, at least in the case of French, Spanish and Portuguese. With the high emphasis given in Scotland to Developing the National Grid for Learning, many of the costs will be incurred anyway and the benefits seem clear.

Costs of making an early start

Although early total immersion does appear to be superior to other forms of immersion in delivering proficiency in the immersion language, its costs are likely to be higher because of the greater number of years of immersion that are involved. A possibility worthy of serious consideration would be delayed partial immersion, understood here as teaching other subjects in whole or in part through the medium of another language at secondary school. Since the immersion would be 'delayed', 'partial' and linked to one or two school subjects only, its costs would be less than for other models. The main cost would lie in finding suitable teachers who were qualified both in the language and in the particualr subject-matter. However, this is an area in which reciprocal arrangements with other countries in the EU could prove helpful, e.g. a German teacher of history coming from Germany to Scotland in order to play a part in a team that was teaching history through the medium of German. Given that research referred to earlier in this report suggests this model of immersion still delivers a far stronger proficiency and confidence in the language than can be delivered by conventional teaching, it would appear to be a particularly cost-effective option to consider in the case of schools or local authorities that wish to make a big difference to their students' learning of other languages.

Costs of providing national examinations in the various immersion languages.

If immersion were to become legitimised within Scottish state secondary education, then immersion students would have to have an entitlement to take their national examinations in their immersion languages for their immersion subjects. Coyle's (1994) paper showed how important this consideration was for immersion pupils at school in England. If immersion were to happen in a completely 'bottom-up' way, then this could lead to requests for examinations in a number of different particular languages for particular subjects. This would generate considerable financial and administrative problems for authorities and SQA. On the other hand, if matters proceeded by means of planning, agreement and contract between schools, local authorities, SEED and SQA, and the number of languages + subject combinations were limited, then it would become more possible to make appropriate provision. This might have something in common with the models described by Coyle (1994; 1997) that are being implemented in a small number comprehensive schools in England or the impressive and thoroughly evaluated models in Germany as described by Mäsch (1993) leading to a 'Bilingual Mention' for pupils in Scotland who were able to pass national examination papers in other subjects through the use of a modern language

Costs of monitoring and evaluating the immersion programmes that are put in place

It is true that any new development in education should be accompanied in principle by evaluation and research. This would be particularly important for immersion programmes, given the range and complexity of the linguistic, psychological, educational, social, cultural and political factors. Canada offers a striking example of how to do this well. It has developed, monitored, evaluated and investigated a number of different models of L2-provision, with the consequence that students, teachers, administrators, parents and the public have a reasonable idea of what they might expect from each model. Read (1996) reports from an Australian perspective on difficulties that can arise in developments that are not accompanied by systematic evaluation: 'However, experimentation with new forms of language teaching and learning in the absence of ongoing research validating the effectiveness of the programmes could eventually lead to a waning of interest of education authorities with consequent reduction of funding.' (Read, 1996: 481).

WHICH MODELS OF IMMERSION MIGHT BE MOST APPROPRIATE FOR SCOTLAND?

Overall, the research included in this review demonstrates that immersion programmes have much to offer but they require very careful planning before they begin and equally careful monitoring as they proceed.

Is it really worth the time, the cost, the effort and the hassle?

Will Scotland 'buy' L2 immersion for languages other than Gaelic? This question cannot be answered by existing research. Much will depend on whether or not parents, schools and authorities are able to identify a compelling socio-cultural rationale, perhaps along the lines of the two possible justifications suggested earlier in the present chapter. This cannot be the same as for Scottish Gaelic. Without strong reasons for doing it, questions will inevitably arise of the 'Is is really worth the cost, the time, the effort and the hassle?' variety.

Depends on what our society wants

To my mind, it ultimately comes down to how ambitious Scotland wishes to be for its young people at school. Does it wish to afford them the same sorts of opportunity for mobility across Europe to which their bi- or multi-lingual peers in other countries will increasingly have access? If the answer is 'Yes', then 'immersion' of some sort deserves consideration.

The research indicates that 'early total' immersion delivers the highest level of L2 proficiency. However, it also indicates that the other models also deliver levels of L2 proficiency that are clearly higher than what may be reasonably expected of L2-as-subject (what we have at present from P6-S4).

I don't believe that any one model stands above all others as being uniquely suited for Scotland. Appropriate advice to those considering immersion would be: Don't jump into it. Ask yourselves why you wish to do this, what social and cultural reasons underlie your thinking, what you are intending it should achieve, think it through, consult with appropriate stakeholders, bodies and authorities before taking a clear and costed decision.

For my own part, at present I can see attraction in four possibilities which arise from the research and which are briefly sketched out as follows:

Model A: **Early partial immersion**	This would be similar to the model introduced at Walker Road Primary School in Aberdeen. From Primary 1 onwards, children receive some of their curriculum through the medium of French from a native-speaker teacher working in collaboration with other school staff. To begin with the proportion of French is below 50% but as the children progress through their primary school education the intention is that more and more of their curriculum will be handed over to French, including Home Economics and Mathematics. A feature of this model is its clear social rationale which is to offer the working-class children an empowering form of language education which will be good for their language development, their sense of self and their aspirations.
Model B: **Delayed immersion - Primary 5/6-7.**	Children would be introduced, perhaps experientially rather than systematically and analytically, to a modern language fairly early in their primary education. Then beginning in Primary 5 or 6 and going through Primary 7 they would receive specialist teaching from a native speaker (qualified to teach primary in Scotland) for (say) six hours per week which would enable them to access appropriate 5-14 curricular areas and levels through their L2. This would complement the contribution of the class-teacher and would be one way of significantly intensifying 'mainstream' provision for modern languages at primary. It would predictably lead to enhanced L2-prociency and higher levels of aspiration. This form of immersion would be for all pupils in the class, though account should be taken of the research findings which indicate that the later the start in immersion the more it will make demands on pupils' cognitive and L1 literacy skills. Its chances of being successful would therefore be greatly increased if by P5/6 pupils have acquired competent L1 literacy skills and an explicit metalingusitic awareness. It would not be a model for the whole country but might respond to the wishes of schools and local authorities for taking worthwhile initiatives in languages while pupils are still young and able to engage in experiential learning.

Model C: Bilingual subject-teaching for fast-track students - Secondary 2-4	This would represent further elaboration of the interesting and successful model already developed in a small number of English comprehensive schools, see Figure 3 in Chapter 1 of the present review, or better still the German bilingual model (Chapter 3). After completing two or more years of a modern language at primary school, pupils would take a further year at secondary in order to effect a good transition from primary to secondary, so that they re-activate and extend the L2 competence that they bring with them. After Secondary 1, those pupils who have shown they possess more advanced academic skills, including but not limited to their L2 competence, would be given the opportunity to go on a fast track. This would enable them to continue with their L2 as subject but also to learn one or more other subjects (in whole or in part) through the medium of a second language. Their teachers of the other subjects would have to be qualified to teach these as well as be highly fluent in the particular language. Possibly this is an area where reciprocal arrangements between local authorities in Scotland and partner authorities elsewhere in Europe might be of assistance. The pupils in question would aim to take Standard Grade at Credit in S3 at the very latest and to aim for Credit in their L2-subjects at the latest by S4, or to follow a more suitable pathway through Higher Still. An initiative of this sort would respond to a key finding of the FLUSS (foreign languages in the upper secondary school) research (McPake, Johnstone, Low and Lyall, 1999). FLUSS established clearly that a majority of the most academically able students in S4 and S5, though faring well in national examinations for modern languages, felt that their 'real life' proficiency in their L2 was low. This raised their anxieties and lowered their motivation, despite the clear finding that their underlying attitudes to modern languages were strongly positive. Bilingual subject-teaching of the sort proposed would provide a much greater challenge and incentive for pupils of this sort. It would predictably raise their L2-proficiency and aspirations and lead more of them to continue with a modern language beyond age 16.

Model D: 'Virtual' two-way partial immersion - post-16	A striking and possibly surprising feature of immersion reports from Canada has been the relative lack of contact that anglophone students receiving immersion in French have with their peers living in the same country, for whom French is their first language. This socio-linguistic factor has been identified by researchers as explaining in part the limitations of the L2 proficiency that French immersion students acquire, e.g. lack of socio-linguistic range, lack of ability to engage in young people's 'peer-peer' talk. For this reason, authorities in Canada are now actively exploring the possibilities of establishing 'virtual' links between French-immersion and French-L1 students. In this respect, Scotland with its Excellence Fund is very well placed to make innovative moves in this direction that could make it a leader in the international field, and two Excellence Fund schemes for languages are already in place. Key features of 'virtual' two-way partial immersion would be the deep involvement of the students themselves and reciprocity across national borders, so that Scottish students had a role in helping their counterparts in another country to develop not only their skills in English but also their cultural and academic knowledge. The same would apply in reverse. To this might eventually be added reciprocal tutoring, with Scottish students receiving virtual tuition in their L2 from teachers in their 'virtual' partner school(s), and with Scottish teachers performing a similar role in respect of their partner students. A complementary feature might be less based on 'You help me and I'll help you' and more on 'Let's do a project together' with input and data-processing taking place in two languages and reflecting two or more national cultures.

POLICY INITIATIVES

The picture of learner proficiency outcomes from immersion programmes offers a cautionary lesson to us in Scotland when we consider what it is reasonable to expect from 'regular' mainstream modern language teaching (what in Canada they call 'core French'). This consists of a modern language for all for six years from Primary 6 to the end of Secondary 4. Even where this works well, the model offers considerably less **time** and the **intensity** of language experience. This of course does not mean that the mainstream Scottish model is diminished in importance. There is no doubt that if mainstream provision 'on the ground' for languages P6-S4 can be improved as a result of the recommendations of the Action Group on Languages, then valuable improvements in proficiency and attitudes will result. Nonetheless, the built-in limitations in time and intensity of this model mean we have to be circumspect in claiming what it is that learners should be able to do by the end of their 'regular' six-year experience.

If in Scotland it were considered important to bring learners to levels of proficiency in a modern language that will put them on something like an equal footing with their continental peers and enable them to use a modern language for cognitive purposes within the knowledge society, then an increase in time and intensity of experience through some form of immersion (total or partial; early, delayed or late) may be a way of achieving this.

The way forward for languages in Scotland is unlikely to be by means of one canonical model to which all schools will subscribe, but rather through carefully planned, agreed, monitored and evaluated innovations. Canada has shown a good example of the development of a variety of models of languages provision, including immersion, and of the systematic monitoring, research and evaluation of these, so that parents, the public and the teaching profession have a reasonably clear idea of what each model will deliver and are in a better position to make informed choices.

Immersion research in Canada and elsewhere shows that immersion programmes yield a higher level of second-language proficiency than can be delivered by a conventional 'drip-feed' approach. Perhaps a suitable time is approaching then for further developing the present review of immersion research so as to enable some small-scale immersion initiatives in Scottish primary and secondary schools to take place.

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