

**Gaelic-medium Education in Scotland: choice and attainment at the
primary and early secondary school stages**

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Summary

Purpose

- 1 This is the final report of the project ‘The Output of Gaelic Education’, funded by Bòrd na Gàidhlig.
- 2 Its purpose is to analyse the attainment of pupils in Gaelic-medium primary education (Primaries 3, 5 and 7) and that of pupils taking Gàidhlig for fluent speakers in secondary education (Secondary 2), and to investigate the reasons for decisions regarding the medium of education (Gaelic-medium or English-medium) at primary and secondary school.

Methods

- 3 The main sources of data on attainment are two surveys conducted by Scottish Government statisticians: the Scottish Survey of Achievement in 2007, and the parallel survey of Primary 5 and Primary 7 pupils in Gaelic-medium streams and schools. These were supplemented by a survey conducted in 2009, as part of the present research project, of primary schools with a Gaelic-medium stream and of secondary schools that provide Gàidhlig for fluent speakers, mainly asking for information about attainment in Primary 3, 5 and 7 and Secondary 2. These sources all provided statistical evidence.
- 4 The statistical analysis compared attainment between pupils in Gaelic-medium education and those in English-medium education at primary school, and between those taking Gàidhlig and those not doing so at secondary school. The analysis attempted to allow for the respects in which pupils who are in Gaelic medium (or who are taking Gàidhlig in Secondary 2) might differ from those who are not in Gaelic medium (or not taking Gàidhlig) in ways that are unrelated to the medium of education (eg gender, socio-economic status). The greatest capacity for carrying out such an analysis is afforded by the two Government-conducted surveys, and so the largest part of the analysis of attainment is devoted to them.
- 5 The Government-conducted surveys allowed us to compare Gaelic-medium pupils with three groups of English-medium pupils: all pupils across Scotland, pupils in a sample that had been matched in certain demographic characteristics with the Gaelic-medium sample, and pupils in some of the same schools as contained Gaelic-medium streams. We used multi-level modelling to undertake the statistical comparisons, a technique that is generally regarded as being at the forefront of statistical methods for understanding pupil progress and attainment.
- 6 The main topic of the two Government-conducted surveys was science, and these surveys used formal tests to measure pupils’ attainment in science. However, the surveys also provide evidence on teachers’ judgements of pupils’ attainment in Gaelic reading and writing, English reading and writing, and mathematics, and so we analyse these judgements too.

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- 7 For understanding attainment, the surveys were complemented by interviews in 2009-10 with parents, headteachers and Local-Authority Gaelic advisers, and by interviews in 2007-8 with pupils, parents and teachers. These interviews covered pupils in Gaelic-medium primary education, or taking Gàidhlig at secondary, and also pupils in English-medium education in schools where there was a Gaelic-medium option.
- 8 The main use of the interviews was for understanding the reasons for decisions regarding the medium of education (Gaelic medium or English medium) at primary and secondary school.

Results: attainment

- 9 Pupils in Gaelic-medium education are more likely to be female and less likely to be living in deprived social circumstances than the average Scottish pupil. The contrast in social circumstances is a characteristic of the schools where Gaelic-medium education is provided, not a differentiating factor within these schools.
- 10 In Primary 3, attainment in English is lower among Gaelic-medium pupils than among English-medium pupils, but this gap has disappeared by Primary 5, by which stage Gaelic-medium pupils may in fact be ahead of English-medium pupils in English reading. The higher attainment in English reading is sustained into Primary 7 and (though with weaker evidence) for pupils taking Gàidhlig in Secondary 2.
- 11 There is some evidence, too, that Gaelic-medium pupils are ahead of English-medium pupils in science in Primary 5, and (with weaker evidence) in Primary 7, although this is a consequence of the Gaelic-medium pupils' being in schools with relatively high science attainment, rather than being a contrast between Gaelic-medium and English-medium streams in the same school.
- 12 There was no evidence of any differences in mathematics attainment between pupils in Gaelic-medium education and those in English-medium education in Primary 7 or between those taking and those not taking Gàidhlig in Secondary 2.
- 13 By the end of primary school, most pupils in both Gaelic medium and English medium are judged by their schools to have reached the level of attainment expected of pupils at that stage (level D of the 5-14 curriculum) in English reading, writing, talking and listening, mathematics and science. Most pupils in Gaelic medium are judged to have reached this level in Gaelic reading, writing, talking and listening.
- 14 However, the evidence from the formal science tests carried out as part of the Scottish Survey of Achievement and the Survey of Gaelic Education suggests that these teacher judgements in science are too optimistic, and that only 6% of all English-medium pupils and 11% of Gaelic-medium pupils reach level D in science in Primary 7.
- 15 Apart from in English reading and writing at Primary 3, there was no evidence that Gaelic-medium pupils had lower attainment than English-medium pupils.

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Thus the Gaelic-medium pupils' acquiring an additional language – or, for those having Gaelic as a home language, consolidating and developing their Gaelic skills – did not detract from their attainment across the other main areas of the curriculum, and their Gaelic gave them broader attainment than their English-medium counterparts.

- 16 Although most Gaelic-medium pupils were judged to have attained the expected level D for Gaelic in Primary 7, by this stage their attainment in Gaelic had, on average, fallen behind their attainment in English, especially in reading.
- 17 Pupils in Gaelic-medium education were less confident in science than English-medium pupils, and were less engaged with scientific content than English-medium pupils. However, Gaelic-medium pupils also reported that their teachers were highly engaged with teaching science, more so than was reported by their English-medium counterparts about their teachers. Teachers of Gaelic-medium streams were less experienced than teachers of English-medium streams, and both Gaelic-medium and English-medium teachers in schools with Gaelic-medium streams thought more highly of their pupils in their attitude to the study of science than the average English-medium teacher in Scotland.
- 18 There was no evidence of systematic geographical variation in the characteristics or attainment of Gaelic-medium pupils or schools: the differences were due to Gaelic-medium streams or to schools, not to council policies or other broad features of the areas in which Gaelic-medium education takes place.
- 19 Most of the higher attainment amongst Gaelic-medium pupils as compared with English-medium pupils is likely to be due to the schools in which Gaelic-medium streams are situated rather than to any differences within these schools between the Gaelic-medium and English-medium streams.
- 20 These conclusions on attainment are broadly consistent with previous findings about Gaelic-medium education in Scotland, notably those by Johnstone et al (1999) that were based on data collected in the mid-1990s. The main differences from that previous period are that Gaelic-medium pupils no longer have lower attainment in science than English-medium pupils, and no longer have higher attainment in mathematics.

Results: choice, provision and purpose

- 21 One reason why people choose Gaelic-medium education relates to heritage, whether of family, locality or Scotland. These levels of allegiance to Gaelic culture could exist together, reinforcing each other and creating a sense of commitment to regenerating the language.
- 22 A second set of reasons was connected to the perceived benefits of bilingualism, and was often based upon knowledge of research that demonstrates a connection between cognitive development and bilingualism, or specifically between bilingualism and learning further languages.

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- 23 Continuing from Gaelic-medium primary education into taking Gàidhlig for fluent speakers in secondary was largely a matter of inertia, of not wanting to waste the language-learning work that had already been done.
- 24 Alongside these dominant motives were various other, more incidental factors – notably a sense that the school where Gaelic-medium education was provided was a generally good school, and the belief that Gaelic-medium education might be effective because its classes tended to be small.
- 25 Choice of English medium was attributable to more diverse motives. A common one was fear by parents who could not understand Gaelic that they would not be able to help their children with homework. There was also a different version of the heritage argument – that Gaelic was not part of the parents’ family traditions. Some parents believed that education was not the means to revitalise Gaelic. There was also some sense from a minority of parents that Gaelic-medium education is divisive, both because of its financial cost and because of the segregation which it was perceived to create in schools. However, many other parents of English-medium pupils welcomed the cultural diversity which the Gaelic-medium stream was perceived to bring to the school.
- 26 There was recognition by parents who wanted Gaelic-medium learning to be extended that finding suitable teaching staff was difficult, especially at secondary. But several parents, even among those committed to Gaelic medium, would not want Gaelic to be the medium of education in all subjects at secondary: it was often said that the sciences might be better taught in English, and that Gaelic was best suited to the social subjects.
- 27 There was an appreciation of the importance of informal contexts for children to use their Gaelic, such as in cultural events, and there was a widespread desire for these opportunities to be sustained and developed.
- 28 Most respondents recognised the importance of encouraging children to use Gaelic outwith school, but most also saw the great difficulty in doing this, even in communities where Gaelic is spoken and where the child has Gaelic at home.
- 29 Many respondents would like English-medium pupils to have more opportunities to learn Gaelic than are available at present, and some would like all pupils in Scotland to study the language. The main reason given was that the language is perceived to be an important part of Scotland’s heritage.

Recommendations for future research on Gaelic-medium education

- 30 For future statistical research on attainment, our main recommendation is that a Survey of Gaelic-medium Education should become a routine part of the Scottish Survey of Achievement. More specifically, we recommend for this expanded Survey:
 - (a) The Scottish Survey of Achievement should enable the linking of pupils with the questionnaire data from their own main class teacher, so that teachers’ teaching practices and experience might be incorporated at the individual-pupil level into models of pupil attainment.

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- (b) All Local Authorities which offer Gaelic-medium education should ensure that English-medium pupils in schools which have Gaelic-medium streams are included in the Scottish Survey of Achievement in adequate numbers to enable reliable within-school comparisons between Gaelic medium and English medium.
 - (c) The measurement of social deprivation should be recorded in a more finely graded form than that currently incorporated into the data from the Scottish Survey of Achievement.
 - (d) The Scottish Survey of Achievement should record information about pupils' home languages (whether Gaelic, English, or another language).
 - (e) The Scottish Survey of Achievement should become a longitudinal study in order that the progress of individual pupils may be tracked over several years.
- 31 For future interview-based research, we recommend:
- (a) The views of pupils as well as adults should be sought where appropriate.
 - (b) Interviews and other forms of data collection should be undertaken to understand how Gaelic-medium education might draw from and contribute to Gaelic linguistic competence and cultural knowledge in the community.
 - (c) Longitudinal interviews should be carried out, following children during their school career, in order to understand their developing attitudes to their languages.
 - (d) Interview data should be used to inform the design of statistical surveys, especially surveys that would seek to understand attitudes to Gaelic and to Gaelic-medium education.

1. Introduction

This report provides evidence on two broad topics relating to Gaelic-medium education in Scotland: the attainment of pupils in it, comparing them with English-medium pupils, and the reasons given for choosing or not choosing Gaelic-medium education. For the analysis of attainment, it draws upon the 2007 Scottish Survey of Achievement (SSA), the parallel 2007 Survey of Gaelic Education, a survey in 2009 of schools with Gaelic streams carried out for this project, and – to cast light on the statistical results – interviews with pupils in 2007-8 and with parents, teachers, headteachers and Local-Authority advisers in 2009-10. It thus follows the advice of the schools' inspectorate in 2005, when they recommended the use of the SSA to analyse pupil attainment in Gaelic-medium education (HMIE, 2005, p. 36). For the analysis of reasons for choice, it draws upon interviews with parents, headteachers and Local-Authority advisers carried out in 2009-10, and interviews with pupils carried out in 2007-8. The research has been guided by the broad questions about attainment in and choice of Gaelic-medium education that were asked by Bòrd na Gàidhlig when they commissioned the work; these are set out in Appendix 1.

1.1 Context

The origins and development of Gaelic-medium education are explained by Johnstone et al (1999), by MacLeod (2003) and by Robertson (2008), and so we summarise here only those features of it that are required to interpret our findings.

In educational terms, the aim of Gaelic-medium education is 'to bring pupils to the stage of broadly equal competence in Gaelic and English, in all the skills, by the end of Primary 7' (SOED, 1993, p. 6). The Gaelic 5-14 Guidelines deem that the 'most important' common feature of Gaelic-medium education is 'the initial immersion phase of at least two years' duration' (SOED, 1993, p. 25). Johnstone's review of the international research on school-based second-language immersion suggested that 'early total immersion' – in which the second language 'is the exclusive language of instruction in Grades 1 and 2, with ... [the first language] gradually coming in thereafter' (Johnstone, 1994, p. 43) – is more effective in facilitating second language acquisition than 'partial immersion', defined as that which provides 'close to 50% immersion in the second language throughout infant and junior schooling' (Baker, 2006, p. 245; see also Johnstone, 2002). In contrast to 'early total immersion' in its narrowest sense, Gaelic-medium education in Scotland is used also by pupils whose first language is Gaelic

The Gaelic 5-14 Guidelines advise that 'in the case of children entering a Gaelic-medium unit at Primary 1 who are not fluent Gaelic speakers, the main emphasis in the first two years will be on gaining oral competence in Gaelic. This is the immersion phase' (SOED, 1993, p. 7). With regard to pupils who are Gaelic speakers upon arrival at primary school, 'schools should ... ensure that children fluent in Gaelic are enabled to continue developing fully their linguistic skills' (SOED, 1993, p. 4) during this time. However, the guidelines recommend that pupils who already speak Gaelic when they enter Gaelic-medium education should experience the Gaelic immersion phase together with their counterparts whose native language is English in order that their 'existing skills' not 'diminish' (SOED, 1993, p. 25).

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The 'key objectives' of the immersion phase are concerned with developing oracy in Gaelic – to 'ensure that all pupils hear as much Gaelic as possible,' 'speak Gaelic as soon as possible,' 'participate fully in classroom activity,' and become 'aware of the need to acquire Gaelic' (SOED, 1993, p. 25). Thus 'most of the time allocated to Gaelic at these early stages will ... be spent on talking and listening' (SOED, 1993, p. 7). The development of literacy then builds on pupils' oracy:

generally, reading and writing skills will be acquired through talking and listening since these are the features of language which children bring to school. Most of the time allocated to Gaelic at these early stages will, therefore, be spent on talking and listening, though the intention of the activity may be the teaching of reading or writing.

(SOED, 1993, p. 7).

Literacy is introduced in Gaelic, on the grounds that 'skills acquired in Gaelic may be expected to transfer readily to English' (SOED, 1993, p. 6) and it is recommended that 'in general, English should not be introduced until pupils have attained Level A targets in the four language outcomes [listening, talking, reading and writing] in Gaelic' (SOED, 1993, p. 6). Because Level A 'should be attainable in the course of Primary 1 to Primary 3 by almost all pupils' (SOED, 1993, p. 12), English will typically have been introduced by Primary 4.

Thereafter, the only advice given on language models in Gaelic-medium primary education is that 'the relative proportion of time allocated to Gaelic and English language will vary in accordance with the needs of the child at particular times; but, in order to achieve the overall aim [of equal competence in Gaelic and English by the end of Primary 7], Gaelic should be the predominant teaching medium throughout the primary stages' (SOED, 1993, p. 6). Whereas in the early years the emphasis is to be on oral skills, reading and writing are to have greater prominence later:

As control over these newly acquired [oral] skills increases there will be a stage when the four outcomes will move into roughly equal weightings. It is likely that, for most pupils, this will be reached by Primary 6 or Primary 7; but such decisions will be influenced by the needs of the class and individuals within it.

(SOED, 1993, p. 7).

The general intention throughout all the stages is that Gaelic should be the normal language of teaching and learning:

In Gaelic-medium schools and units, the whole curriculum will be delivered through the medium of Gaelic. All the outcomes of environmental studies, the expressive arts, mathematics and religious and moral education will, therefore, be taught through Gaelic, as will all cross-curricular concerns such as social and personal development. Support for pupils with special educational needs will be offered through Gaelic, as appropriate. It is of particular importance that Gaelic should be the language through which the contemporary world and its culture are viewed and that curricular dimensions such as information technology and media education be explored through the medium of Gaelic.

(SOED, 1993, p. 7)

O'Hanlon, in a survey of primary schools with Gaelic-medium streams for her doctoral research, nevertheless found a great deal of heterogeneity in the language model employed in these streams in Primary 7. Modern Foreign Languages, English and Expressive Arts were taught wholly or predominantly through Gaelic in only a minority of schools (respectively one quarter, one third and four out of ten). On the other hand, around three quarters of schools taught Environmental Studies, Mathematics, Personal and Social Development and Religious and Moral Education wholly or predominantly through Gaelic. Gaelic itself was taught wholly or predominantly through Gaelic in nine out of ten schools. A recurrent reason for the variation was the problem of finding specialist teachers who could teach through the medium of Gaelic.

Because most pupils in Gaelic-medium education have not acquired the language at home, the sector may be generally characterised as providing Immersion Bilingual Education: 'the term "immersion" implies that learners are educated in whole or in part through a language which is not their first language' (Johnstone, 2002, p. 1). Second-language immersion (as opposed to 'submersion') is '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' (Johnstone, 2002, p. 9). Nevertheless, for some pupils, Gaelic-medium education is

Heritage language bilingual education ... where language minority children use their native, ethnic, home or heritage language in the school as a medium of instruction with the goal of full bilingualism [T]he native language is protected and cultivated alongside development in the majority language.

(Baker, 2006, p. 238)

This is true not only of the minority of pupils who have acquired Gaelic from home, but also, for example, of those for whom one or both parents speak Gaelic, but have not endeavoured to transmit Gaelic in the home, or may not have succeeded in doing so.

Although the main topic of this report is Gaelic-medium education, we have also collected information about the experience of Gaelic learners. The aim of Gaelic for learners is described officially thus:

The main aim in learning Gaelic as a second language is that pupils should be able to communicate effectively in that language. This ability will develop confidence, self-esteem, [and] social and intellectual growth and open the door to the rich storehouse of Gaelic culture.

(SOED, 1993, p. 57)

However, Gaelic for learners is not systematically taught in primary schools in Scotland. Johnstone et al (2003, p. 1) found that 'the amount of time made available per week for teaching in class at school is limited, unlikely to extend beyond 75 minutes maximum and often much less than that.' Gaelic for learners does not have the level-A to level-F structure of most other subjects in the 5-14 curriculum, but

rather uses a three-fold classification of Elementary, Intermediate and level E, representing 'stages of increasing communicative competence'. The reason for the distinctive structure of progression is that 'in the primary school in particular, pupils will begin to learn Gaelic at different points and the amount and nature of their experience of it will vary' (SOED, 1993, p. 59). Level E does not represent the same communicative competence as level E for pupils in Gaelic-medium education.

Johnstone et al (1993, p. 13) also note that, although there are some similarities between the characteristics of the schemes with which Gaelic and Modern Foreign Languages are taught in primary schools ('Gaelic Learners in the Primary School' and 'Modern Languages at Primary School') – notably 'that the teaching is generally undertaken by primary school class teachers who volunteer to undergo a special training course in order to teach the language to their pupils as an additional part of their general everyday teaching' (Johnstone et al, 2003, p. 1) – an important difference is that Gaelic is usually begun earlier than Primary 6, the typical starting point for other Modern Languages.

Most recently, Bòrd na Gàidhlig's action plan to increase the number of Gaelic speakers, *Ginealach Ùr na Gàidhlig*, includes the aim to 'enable more pupils to understand more about the place of Gaelic within Scotland's wider historical, linguistic and cultural environment' by means of the provision of Gaelic 'awareness and understanding courses' to primary and secondary school pupils (Bòrd na Gàidhlig, 2010, p. 8).

1.2 Previous research on attainment in Gaelic-medium education

The immediate reference point for this research is an analogous project by Johnstone et al (1999), which used data from the mid-1990s, including data from the predecessor to the SSA, the Assessment of Achievement Programme (AAP). Johnstone et al found that, for 1997-8, although nearly all Gaelic-medium pupils were meeting attainment targets in Gaelic in Primary 3, and in Primary 5 were on track to meet targets that had been specified for Primary 6, at best about 65-70% were meeting targets for Gaelic listening and talking in Primary 7, and only about 60% were doing so for Gaelic writing and reading (Johnstone et al, 1999, p. 23). Gaelic-medium pupils were found to have, on average, higher attainment in English than in Gaelic in Primary 5 and Primary 7.

Johnstone et al also compared the attainment of Gaelic-medium and English-medium pupils. In English in Primary 5, Gaelic-medium pupils had similar attainment on all four English-language skills to English-medium pupils in the same schools, and were slightly below the levels of English-medium pupils nationally (Johnstone et al, 2000, p. 7). In Primary 7, Gaelic-medium pupils were ahead of English-medium pupils in the same schools on all four skills, and had a similar level of attainment to English-medium pupils nationally. In science in Primary 4 and Primary 7 (the stages investigated by the AAP), Gaelic-medium pupils performed less well than the English-medium pupils at the same school, but their results matched the national average in Primary 4 and were close to doing so in Primary 7. In mathematics at these two stages, Gaelic-medium pupils performed better than both the English-medium pupils at the same school and the national average, with the gap being wider in Primary 7 than in Primary 4. There were some gender differences between Gaelic

medium and English medium with respect to mathematics attainment: boys performed better than girls in Gaelic medium but the reverse was true in English medium.

As well as the research by Johnstone et al, there have also been reports on attainment in Gaelic-medium education by the schools' inspectorate, by the Scottish Executive and by Highland Council. In 1994, the inspectorate, recording their perception that bilingual education had not been effective in achieving full bilingual capacities in pupils, recommended that 'the Gaelic-medium approach is the practical one to adopt' (SOED, 1994, p. 17). Because, since then, there has been a general shift to using the early total immersion model associated with Gaelic-medium education, and away from bilingual education using an early partial immersion model, the inspectorate's conclusions on attainment in this 1994 report are not of direct relevance to the present study.

The Scottish Executive reported on attainment in 2002 by comparing the Gaelic attainment of Gaelic-medium pupils with the English attainment of all pupils in Scotland at the Primary 2 to Primary 7 levels, concluding that 'a lower proportion of pupils were attaining the 5-14 Level relevant to their stage in Gaelic reading and Gaelic writing compared with the equivalent results for English reading and English writing in each of these stages' (Scottish Executive, 2002, p. 2). This approach is methodologically questionable on two grounds. Comparing immersion pupils' linguistic competence mainly in their second or additional language with that of monolingual pupils in their first language pays no attention to the different rates of linguistic development that might be expected of each group, differences embodied in the 5-14 Guidelines themselves (as we have noted in Section 1.1 above). The comparison of Gaelic-medium and English-medium pupils' literacy levels (in Gaelic and English respectively) is particularly questionable at the early primary school stage, during which time immersion education focuses on oracy. An additional problem is the inclusion of Gaelic-medium pupils in the group with which Gaelic-medium pupils are compared, although the numerical effects of this will be small because the Gaelic-medium sector is only a very small part of the Scottish education system as a whole.

Highland Council reported on attainment by Gaelic-medium pupils in the school year 2008-9, finding that, at Secondary 2, pupils taking Gàidhlig for fluent speakers had higher attainment in English reading and writing, and in mathematics, than Secondary 2 pupils as a whole across the council area (Highland Council, 2009, pp. 2 and 4). As with the Scottish Executive data, however, this comparison does not separate out English-medium pupils from Gaelic-medium pupils in the group of Secondary 2 pupils as a whole.

1.3 Previous research on choice of Gaelic-medium education

There has been only limited previous research on why Gaelic-medium education is chosen, and still less on the related question of why English-medium is chosen when Gaelic medium is available.

Three national studies of parents who chose Gaelic-medium education have been conducted to date. As part of a broader study of the parental experience of Gaelic-medium education, MacNeill (1993) interviewed 100 parents in different parts of

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Scotland (although a large majority of them were in the Western Isles). The principal set of reasons given by parents involved a family connection to Gaelic, with Gaelic either spoken in the home, sometimes as the child's first language, or by at least one set of grandparents. A broader commitment to the maintenance of Gaelic was another prominent theme. Education-related factors were also noted in many cases, with parents remarking on the impressive progress of children in Gaelic education. One group of parents, particularly those in professional occupations, emphasised the value of bilingualism for intellectual and linguistic development (with some suggesting that a language other than Gaelic, such as French, would have served this purpose equally well).

Although the research by Johnstone et al (1999) was concerned mainly with attainment, it reported on the reasons which parents gave for having 'chosen Gaelic-medium education for at least one of their children', and found that 'by far the largest grouping of responses clustered around aspects associated with Gaelic linguistic and cultural heritage'. There was also a cluster of responses associated with 'the advantages of bilingualism', and a large minority of parents were influenced by their 'perception of Gaelic-medium education teaching as being of good quality'. The belief that Gaelic medium would benefit their children's employment opportunities was spontaneously mentioned by 'only a small group of parents' (Johnstone et al, 1999, p. 61).

The third national study was by McPake and Doughty (2006), who surveyed almost 600 parents at 30 primary schools across Scotland with Gaelic-medium provision (including parents of children enrolled in the Gaelic nursery). While their study did not include questions concerning the reasons for the initial choice of Gaelic medium, several other findings are relevant. In socio-economic terms, parents who sent their children to Gaelic-medium education seemed not to differ greatly from the general population of parents of children in primary or pre-school education in Scotland, except in relation to their own language backgrounds. The degree to which Gaelic was used in the home and the degree to which there was a family history of Gaelic were much higher among parents of Gaelic-medium pupils than among parents of English-medium pupils, although these levels were rather lower than with the Gaelic-medium parents involved in earlier research, when Gaelic-medium education was more heavily concentrated in Gaelic-speaking areas of Scotland.

There have also been studies of choice in particular districts. Roberts (1990, 1991) surveyed all parents in the Western Isles with children who were expected to start school in 1989 and 1990. The investigation was conducted shortly after the introduction of Gaelic-medium education in the Western Isles in 1987 (following the Bilingual Education Project of 1975-81, which had mixed results), and when several new Gaelic units were opening in the islands. He found generally very positive attitudes to Gaelic-medium education among parents, on two main grounds – that it was a way of sustaining Gaelic culture, and that, if children were to acquire the language through education, then it was best done when they were young. However, there were also some doubts, mainly on the grounds that the language might be better learnt in the home or the community. There was also a fear that studying through the medium of Gaelic might inhibit pupils' general attainment.

Stockdale et al (2003) investigated factors associated with the choice of Gaelic-medium or English-medium primary education, focusing on three strongly Gaelic or

residually Gaelic communities in the Highlands and Islands (Ullapool, Laxdale and Castlebay). A family tradition of Gaelic inclined people towards Gaelic medium, in the sense that it was more likely to be chosen if the parent or the maternal grandmother spoke Gaelic than if they did not. Highly educated parents were more likely to choose Gaelic medium than those who had less education, as were parents who had migrated from England into the geographical areas which the research was studying. Conversely, people who had migrated from Lowland Scotland were the least likely to send their children to Gaelic medium, and those who had grown up locally not speaking Gaelic tended to be rather hostile to Gaelic medium. Perhaps not surprisingly, holding a generally positive opinion of Gaelic and of Gaelic-medium education itself also seemed to encourage people to choose it: what was meant by a high opinion of the language included the belief that it should have official status and the view that it was an important part of Scottish identity.

Two current projects, parallel to ours, have investigated some of the questions which we analyse here but for different groups of respondents. McLeod et al (2010) provide an up-to-date summary of the provision for adult Gaelic learners and for learners in primary school. Our main intention here in connection with learners is to report the views about English-medium children learning Gaelic that were described to us by parents and headteachers. Thus our aim in this respect is to provide some evidence relating to a comment by Johnstone et al:

In order to gain a more complete understanding of Gaelic Learners in the Primary School, it would be appropriate to investigate the following aspects: perceptions of stakeholders ..., in particular pupils, parents, primary school headteachers, key staff in secondary schools, local communities.

(Johnstone et al, 2003, p. 20)

The other parallel project is on pre-school education, by Stephen et al (2010). It found that parents chose Gaelic-medium nurseries because they had a family connection with Gaelic, because they were committed to revitalising the language, or because they wanted their child to be bilingual. Some also saw Gaelic-medium education as having social or educational advantages not directly connected to the medium of education, such as small classes or what was perceived to be a congenial social mix.

1.4 Research on immersion and heritage language education outside Scotland

We restrict our discussion of previous research on bilingual and immersion education outside Scotland to Celtic languages in the UK and Ireland because these provide a more valid basis for comparison with our findings. So far as the comparison within the UK is concerned, Raffe et al (1999, p. 19) explain the methodological basis:

In varying degrees, the nations of the UK have distinctive education and training systems, but all belong to the same state and share its homogenising influence. The economy and the labour market, their regulatory frameworks and their ways of working, are also relatively uniform across the UK. The boundaries of education and training systems, in other words, do not coincide with the boundaries of such important aspects of the societal context as the state, the economy and the labour

market. As a result, home international comparisons may provide more opportunities for theory development than the study of homogenous systems with unique boundaries.

The Celtic-language programmes in the rest of the UK and in Ireland are each ‘strong’ forms of bilingual education (Baker, 2006, p. 238), which have ‘bilingualism, biliteracy and biculturalism as intended outcomes’ (Baker, 2006, p. 228). They are ‘additive’ bilingualism models, which ‘enable ... children to acquire a good command of two languages ... with a second language giving added value to the first.’ (Johnstone, 1994, p. 44). We do not discuss ‘weak’ forms of bilingual education – such as submersion and transitional programmes, which result in relative monolingualism – because these are less relevant to the situation of Gaelic in Scotland.

Such research from the UK and Ireland tends to find a higher performance amongst Celtic-medium pupils than English-medium pupils, particularly in English, but typically concedes that, until further research is undertaken that allows for social factors (such as gender and socio-economic status), these perceived advantages in attainment cannot validly be attributed to immersion and heritage language education.

Reynolds et al (1998) found that pupils in Welsh-medium schools had higher attainment in GCSE (approximately age 16) than the Welsh national average (which is based mainly on English-medium schools), but speculated (p. 10) that ‘the good “raw results” achieved by the Welsh-medium schools were likely to have reflected the influence of many things: the quality of the intakes into the schools, the levels of parental support, and, of course, the level of effectiveness of the schools themselves.’ A much lower percentage of Welsh-medium pupils than of English-medium pupils were entitled to free school meals (an indicator of poverty), a difference that would tend to lead to higher attainment among Welsh-medium pupils.

Reynolds et al also collected information on the ethos of schools, and found that Welsh-medium schools were stronger than English-medium schools in supporting pupils’ social development, in maintaining orderly discipline, in the quality of teaching and assessment, in forming partnerships with the community outside the school, and in management. They found there to be a ‘higher average percentage of time on task’ and more ‘interactive whole class teaching’ in Welsh-medium schools, both of which are features that have been found more generally to strengthen attainment. They concluded that ‘the Welsh-medium schools are more effective schools and they are slightly more effective than English-medium schools in their educational processes even if one takes account of their advantaged intakes’ (Reynolds et al, 1998, p. 21).

In a study of attainment in GCSE (approximately age 16) in Welsh-medium and English-medium schools in Rhondda Cynon Taf, Gorard reported statistical analysis that led him to conclude that there was no systematic difference in attainment between the sectors: ‘there is no clear evidence ... that children are advantaged by attending either type of school in general. There may be individual school effects (the data are neutral on this) but there is certainly no clear school-type effect in Rhondda Cynon Taf’ (Gorard, 2000, p. 142). However, Gorard did not find that attainment in Welsh-medium schools was systematically lower than in English-medium schools, and so his analysis may be interpreted as confirming that, at the very least, pupils are not

disadvantaged by being placed in Welsh-medium rather than English-medium education.

Research in Wales has found broadly similar reasons for choosing Celtic-medium education to those given by parents in Scotland. Packer and Campbell (1997) interviewed 24 parents of Welsh-medium pupils who were in Year 6 at a school near Cardiff. They reported that Welsh-speaking parents ‘seemed to present the choice as a natural reflection of the family culture’ (p. 5), while English-speaking parents saw Welsh-medium education as offering their children a special opportunity to learn the language, several stating regret at not speaking Welsh themselves. Most parents thought the Welsh-medium schools had a good reputation. There was a desire to help their children integrate into the Welsh-speaking community, and more widely there was also perceived to be a need to integrate in order to take advantage of the job opportunities that being fluent in Welsh might open up.

Mac Nia (2002) presented assessment data from Northern Ireland which compared Irish-medium and English-medium pupil attainment in their language of education and mathematics at the end of Key Stage 1 (when pupils are approximately 7 years old), and in English and mathematics at the end of Key Stage 2 (the end of primary education, when pupils are approximately 11 years old). At the end of Key Stage 2, Irish-medium pupils’ performance in Irish was also compared with their performance in English. Mac Nia found that Irish-medium pupils had similar attainment in Irish and English at the end of Key Stage 2, and that, in English and in mathematics, a lower proportion of Irish-medium pupils than of English-medium pupils performed at level 5, the highest level expected for that stage. Mac Nia comments (p. 106) that

while the reasons for ‘poorer’ performance in English at Level 5 are probably more understandable and to be expected, this performance at Level 5 in mathematics is not so easily explained. Language acquisition probably has a large part to play but is unlikely to be the only reason. The nature and appropriateness of the assessment may have a part to play also, but is unlikely to impact greatly. This is obviously an area worthy of further consideration and exploration.

Although invoking the experience of Irish-medium education in the Irish Republic does not come under the rubric of ‘home internationals’ in the terminology of Raffe et al, the social structures of the Republic and of the UK have been evolving in such a way in recent decades as to make the two societies more similar than they have been at any time in the past couple of centuries (Heath et al, 1999). It is thus relevant to our purposes here to note that the Irish Department of Education and Science (1991, p. 28) found higher levels of attainment in English reading amongst Irish-medium pupils, as compared with English-medium pupils, but noted that

it seems reasonable to conclude that factors of family background, pupil ability and pupil-teacher ratio go some way to explaining the gap in English reading attainment between scoileanna Lán-Ghaeilge [Irish-medium] and Ordinary schools. However, firm conclusions on the importance of these factors must await further research.

Ó hAiniféin (2007) found similar results when comparing the attainment of Irish-medium and English-medium pupils in English reading. He also compared, in particular, Irish-medium and English-medium schools that have been officially

designated as disadvantaged in a socio-economic sense. He found that the attainment in English reading by Irish-medium pupils in such social circumstances was notably higher than that of the English-medium pupils.

More generally, the research on the cognitive benefits of bilingualism may help to explain attainment differences between Gaelic-medium and English-medium education. Baker (2006, p. 164) notes the abundant evidence that bilingual people tend to have ‘advantages on certain thinking dimensions, particularly in divergent thinking, creativity, early metalinguistic awareness and communicative sensitivity’. The unifying concept here is children’s developing a ‘theory of mind’, which may be facilitated by the practice of making linguistic choices that being bilingual entails (Perner and Aichhorn, 2008; Bialystok and Senman, 2004; Emmorey et al, 2008; Goetz, 2003). We do not have the data here to test such theories directly, but as well as offering a potential explanation of attainment differences found between Gaelic-medium and English-medium education, these theories have also had an effect on parental beliefs. Such research has become quite widely known in the debates about Gaelic, and – as we will illustrate – was cited by several of the interview respondents as a reason for choosing Gaelic-medium education and as an explanation of the experience of Gaelic-medium pupils. Thus, in addition to potentially providing some understanding of Gaelic-medium education, the research literature itself helps to shape the context in which Gaelic-medium education takes place. We return to such points in our analysis and conclusions.

2. Data and Methods

2.1 Data

Data for the analysis come from four main sources:

2.1.1 The 2007 Scottish Survey of Achievement

The Scottish Survey of Achievement (SSA) is the main means by which the Scottish Government monitors attainment in primary and early secondary. A full description of the 2007 survey is provided in its official report (Scottish Government, 2008), and so here we give only a summary of those aspects of its design that are required to explain the analysis we have undertaken. The pupils were selected by a two-stage clustered random sample in school session 2006-7: that is, schools (the clusters) were selected first, stratified by size and Local Authority, and then pupils were selected within schools. We use data from only Primary 5 and Primary 7, because these were the only school stages that were included in the parallel Survey of Gaelic Education (described below). The target number of pupils in the sample was 12,703 at Primary 5 and 12,718 at Primary 7, from 895 Local-Authority and independent schools; this represents approximately one in four of all pupils in these primary stages. The pupil response rates were around 80% of these numbers at each of Primary 5 and Primary 7. In our analysis, after pupils with missing data on questions in which we are interested are excluded, the sample sizes drop to around 7,700 at each stage: details are in later tables.

The design of the SSA allowed Local Authorities to choose to have a large enough sample to allow for reliable reporting of the Authority's own results. (Small Authorities would not achieve a size of sample suitable for reporting at Local-Authority level if they were represented proportionately to their size.) In 2007, this minimum threshold of size was achieved for 22 Authorities covering 96% of all the pupils in the sample, but unfortunately for our purposes two of the 10 Authorities which did not choose to have this larger sample were two of the significant providers of Gaelic-medium education, Argyll and Bute and Comhairle nan Eilean Siar; we comment on some of the implications of this below. Statistical weights are available in the survey data base to compensate for the differing sampling fractions that result from this, but in practice make almost no difference to the results reported here; therefore we report only unweighted results.

Each pupil was formally tested in science by means of a pair of test booklets randomly selected from six such pairs that covered the relevant levels of the 5-14 testing programme for that stage (levels B, C and D at Primary 5, and levels C, D and E at Primary 7); each booklet contained questions from each of the levels. The results of the tests were recorded as the number of items answered correctly at each level and the total number of items; we have converted these for our purposes into percentage of items answered correctly at each level. For domains of attainment other than science (mathematics, and English reading and writing), teachers were asked to judge the level which each individual pupil had reached; their judgements were available in science as well. Thus for science we have both the SSA test results and the teacher judgements. For subjects other than science, the information we have on attainment is

based on teachers' judgements, not on tests conducted as part of the surveys, although these judgements themselves will have been informed by the tests used in 5-14 assessment (Munro and Johnson, 2008). We discuss this further below. Pupils and teachers were given questionnaires to record their experience of and views about school work in science.

2.1.2 The 2007 Scottish Survey of Achievement: Survey of Gaelic Education

The Survey of Gaelic Education was conducted as part of the 2007 Scottish Survey of Achievement, and thus used broadly the same research design and the same research instruments, including the concentration on science; test items and questionnaires were made available bilingually. To have pupil numbers from Gaelic medium that would be adequate for statistical analysis, essentially a census of Gaelic-medium provision in Primary 5 and Primary 7 was undertaken, rather than the one-in-four sampling of the Scottish Survey of Achievement. All 44 schools which were believed by Bòrd na Gàidhlig to be teaching science wholly or partly through the medium of Gaelic were included (out of the 61 schools which have Gaelic-medium provision): of these, 35 participated for Primary 5 and 30 for Primary 7. This yielded a potential sample of 226 Gaelic-medium pupils in Primary 5 and 179 in Primary 7. Of these, 192 and 166 respectively participated. The tests employed in the Gaelic Survey consisted of one pair of test booklets at each of the Primary 5 and Primary 7 levels, randomly selected from the six pairs of test booklets for that stage from the SSA. These Gaelic-medium pupils completed the same science questionnaire as did the English-medium pupils in the SSA. Forty Gaelic-medium Primary 5 teachers, and 33 Gaelic-medium Primary 7 teachers, completed the same questionnaire as did the English-medium teachers in the SSA.

As in the full survey, although we have formal tests of pupils' attainment in science, we rely on teachers' judgements of their attainment in other domains (mathematics, reading and writing in English and reading and writing in Gaelic). In using teacher judgements to assess pupils' attainment, it must be noted that teachers tend to be more optimistic than the results shown by objective tests in the SSA; this is evident from some of our later tables for science, and has been found for all areas of the curriculum in the Scottish Survey of Achievement since 2005 (Munro and Johnson, 2008). However, these differences between teacher judgements and SSA tests should not invalidate using teacher judgements for comparing Gaelic-medium and English-medium attainment, because the differences seems to be similar in the Survey of Gaelic Education and the Scottish Survey of Achievement (Scottish Government, 2009, p. 7-8).

Data sets from the surveys were given to us by statisticians in the Scottish Government, in the form of Excel files holding data on pupil attainment, on teacher judgements of pupil attainment, from pupil questionnaires and from teacher questionnaires; these were supplied separately for each survey. The data sets were linked together to produce one large data base in the statistical package SPSS, and checked for accuracy of linking against published results in the official reports of the surveys. To protect the anonymity of small schools in the Gaelic Survey, 12 pupils were deleted at random by the government statisticians from each of Primary 5 and Primary 7 before the data sets were supplied to us. Data from our survey of schools on the percentage of teaching time conducted in Gaelic in Primary 7 (see Section 2.1.3

below) were matched into the data set by the government statisticians in order that the identities of individual schools would not be revealed to us.

2.1.3 Survey of schools with Gaelic-medium or Gaelic-Fluent-Speaker provision

Between summer 2009 and March 2010, we conducted a survey of the 61 primary schools with Gaelic-medium provision and the 39 secondary schools that teach Gàidhlig for fluent speakers, in order to collect 5-14 attainment data in English and Gaelic at the Primary 3, Primary 5, Primary 7 and Secondary 2 stages, and in mathematics and environmental studies at the Primary 7 and Secondary 2 stages. We collected such data for both the Gaelic-medium and English-medium pupils in the primary schools, and for pupils taking and not taking Gàidhlig for fluent speakers in the secondary schools. At the secondary stage, we included all schools that provide Gàidhlig for fluent speakers, rather than only those that provide Gaelic-medium education: Robertson (2009) notes that, whereas 39 secondary schools provide Gàidhlig for fluent speakers (for 251 pupils in Secondary 2), only 19 of these provide Gaelic-medium education (for 138 pupils in Secondary 2). The first version of the survey – an online questionnaire – yielded only a low response rate – 8 primaries and 8 secondaries. Therefore, much simplified versions of the questionnaires were sent by post to schools in November 2009, and were subsequently followed up with email reminders in January and March 2010. This gave a much better response – in total 29 primaries and 16 secondaries (a response rate of 48% and 41% respectively).

Because the responding schools tended to have higher numbers of Gaelic pupils than the non-responding schools (as calculated from the roll numbers reported by Robertson (2009)), the responding schools covered a larger percentage of all pupils in Gaelic-medium education than the number of school returns would suggest, as shown in the first part of Table 1. Measured in terms of numbers of Gaelic-medium pupils covered, the overall response rate for all four stages combined was around 62%. Table 2 shows the responses by Local-Authority area: while there are responses from all four of the categories shown, the response rates were lower for Comhairle nan Eilean Siar than for the others (a point in common with its response rate to government-sponsored surveys of English-medium education, as noted in Section 2.2.1 below).

The questionnaires asked about attainment by Gaelic-medium and English-medium pupils in English and Gaelic reading, writing, listening and talking in Primaries 3, 5 and 7, and in these same domains for pupils taking and not taking Gàidhlig for fluent speakers in Secondary 2. For Primary 7 and Secondary 2, attainment information was requested additionally for mathematics and science. The questionnaires also gathered information about: the percentage of teaching time that was in Gaelic in the Gaelic-medium streams at the various primary-school stages, a list of subjects taught through the medium of Gaelic at the early-secondary-school stage, the percentage of teaching time that was conducted in Gaelic in these subjects, and the provision of Gaelic for learners in both primary and secondary. Respondents were invited to write further comments on the questionnaire to enrich the statistical data, such as to offer explanations of patterns of attainment. A supplementary telephone survey of primary schools in September 2009 collected information about the percentage of teaching time that was conducted in Gaelic in Primary 7 in the Gaelic stream, for use with the Scottish Survey of Achievement as noted in Section 2.1.2 above.

Table 1
Response rates to survey and interviews conducted specially for this research¹

Survey of schools	Number of schools	Gaelic-medium pupils in primary schools or Gàidhlig (fluent speakers) in secondary schools	
		Stage	Response rate (%)
Primary	29 out of 60	P3	71
		P5	64
		P7	61
Secondary	16 out of 39	S2	50
Interviews	Number	Percentage of target	
Local-Authority advisers	7	100	
Headteachers	15	100	
Parents,	85	69	
of whom:			
Parents of Gaelic-medium primary pupils	23	66	
Parents of English-medium primary pupils in schools with a Gaelic-medium stream	4	17	
Parents of Gaelic-medium secondary pupils	32	91	
Parents of English-medium secondary pupils in schools with a Gaelic-medium stream	26	87	

Note:

¹ That is, not including the Scottish Survey of Achievement 2007 and the Survey of Gaelic Education 2007, both conducted by the Scottish Government.

Table 2
Survey of schools: distribution of respondents by Local Authority¹

	Argyll and Bute	Comhairle nan Eilean Siar	Highland	Other
Primary:				
number of schools responding	4	6	12	7
as % of all schools in the Local Authority category with Gaelic medium	67	26	60	64
as % of all Primary 3 pupils in the Local Authority category in Gaelic medium	56	32	81	84
as % of all Primary 5 pupils in the Local Authority category in Gaelic medium	65	26	75	82
as % of all Primary 7 pupils in the Local Authority category in Gaelic medium	43	22	78	75
Secondary				
number of schools responding	1	4	7	4
as % of all schools in the Local Authority category with Gàidhlig	20	36	54	40
as % of all Secondary 2 pupils in the Local Authority category taking Gàidhlig	23	30	68	61

Note:

¹ To protect the anonymity of schools that are the only provider of Gaelic-medium education in a Local Authority area, the only three Authorities identified by name here are those with several such schools.

The pupil percentage data show, for example, the number of Primary 3 pupils in the schools which responded expressed as a percentage of all Primary 3 pupils in Gaelic-medium education in the Authority (or group of Authorities if the final column). 'Gàidhlig' for Secondary 2 means Gaelic for fluent speakers.

2.1.4 Interviews

We draw on data from two sets of interviews. One consists of those which we conducted with parents, headteachers and Local-Authority Gaelic advisers. Interviewees came from eight primary schools that provided Gaelic-medium education, the eight secondary schools into which they feed and the Local Authorities which govern them. These pairs cover the full range of contexts in which Gaelic-medium education is provided. Two pairs are in areas where there is a great deal of Gaelic spoken in the community. Two pairs are in other parts of the Highlands and Islands, and four are in the Lowlands. To preserve the anonymity of respondents, we cannot give any more detail of the schools that were selected.

Headteachers and advisers were contacted directly by means of bilingual requests to participate, and all agreed to be interviewed. Parents were contacted indirectly by means of bilingual letters requesting participation which the schools forwarded from the researchers to parents in the relevant school-year groups (Primary 7 and Secondary 2); this approach protected the anonymity of parents who did not want to take part. The first requests to parents were distributed in June and August 2009. For each selected primary, requests were sent to the parents of all Gaelic-medium pupils who were in Primary 7 in session 2008-9. The same was done for the parents of all pupils who were taking Gàidhlig for fluent speakers in Secondary 2 in that session. The first attempt to recruit parents of pupils in English medium primary education, or not taking Gàidhlig at the secondary-school stage, involved asking the schools to send requests to a sample of parents of such pupils in Primary 7 and Secondary 2, but response numbers were low. So, when reminders were sent to parents of Gaelic-medium and Gàidhlig pupils in the autumn of 2009, new requests were also sent to the parents of all English-medium pupils who had been in Primary 7 the previous session in the school with Gaelic medium, and to all non-Gàidhlig pupils in two secondary-school registration classes who had been in Secondary 2 in the previous session. In an attempt to draw English-medium parents in, emphasis was placed in the letters requesting participation on the interest which the project had in languages in general other than English, as part of the context in which Gaelic is used or taught. The total number of respondents in each category is shown in Table 1.

Interviews were carried out between June 2009 and March 2010, in nearly all cases by telephone. Four of the Local-Authority-adviser interviews and three of the parental interviews were conducted in Gaelic. Parents of children in Gaelic medium or taking Gàidhlig were asked about why Gaelic-medium education had been chosen at primary school, what their experience of Gaelic, and of other languages, had been, and what their preferences were regarding the teaching of subjects through the medium of Gaelic at secondary school. Parents were also asked about their child's attitude to Gaelic and use of the language outwith school. Parents of secondary-school children were asked retrospectively about their child's experience of primary school, and parents of primary-school children about their expectations of secondary. Parents of children in English-medium education were asked about why they had not chosen Gaelic-medium education at primary school, about the relationship between the Gaelic-medium and English-medium streams in the school, and about their child's experience of learning Gaelic or other Modern Languages. Headteachers and Local-Authority advisers were asked about their perceptions of parents' views of these same topics as well as about policy issues relating to the origin and development of Gaelic-medium education in their area, its current provision, and the supply of Gaelic-

medium teachers. The interviews were recorded digitally, and then transcribed. The parental interviews typically lasted around half an hour, although a few were much shorter (10-15 minutes) and a few lasted as long as an hour. The headteacher and adviser interviews each lasted around one hour.

The other source of interviews is research which O'Hanlon carried out for her doctoral studies. This is a comparative study of Gaelic-medium and Welsh-medium education, but here we use only the Gaelic-medium data. She interviewed (during 2007) 28 pupils in Gaelic-medium Primary 7, 23 of their parents and six of their primary-school teachers. She interviewed eight Gaelic secondary teachers, and re-interviewed 27 of the pupils one year later when they were able to comment on learning at secondary school and when their reflections on learning at primary school would have acquired the benefit of the distance which having moved onto secondary conferred. She also interviewed 17 English-medium pupils (13 of them again at secondary school), and their parents and teachers. We mainly use the pupil data, but also some of the parental and teacher data.

2.2 Methods of analysis

2.2.1 Definition of statistical variables

For most purposes, the results of the tests sat by pupils were considered in terms of a threshold of 65%, which we describe as a pass, and which the official reports of the Scottish Survey of Achievement describe as a pupil's being 'well established' at the corresponding level. For example, a pupil is said to have passed (or to be well established) at level C if the result in the test of science at level C is 65% or better. Where the attainment information comes from teacher judgements, a pupil is said to have passed at a particular level if the teacher judges that person to have achieved that level or higher. In most of the analysis, we concentrate on the modal levels for the two school stages – level C for Primary 5, and level D for Primary 7.

We mostly cannot validly use the percentage scores from the tests because pupils sat different tests, and there was no information in the data sets on which pair of the test booklets each pupil sat. However, for the comparison of Gaelic-medium pupils with the matched sample of English-medium pupils (as described below), a direct comparison of percentages is valid, because the test booklets sat by the two pupil groups were known to be the same (as described in Section 2.1.2).

We constructed summary measures of school ethos from the responses to the pupil and teacher questionnaires. The process by which school ethos scales were created is described in Appendix 3 and Section 3.4, where the results of statistical models incorporating such ethos variables are discussed.

The main focus of all the statistical analysis of attainment is on the comparison between Gaelic-medium and English-medium pupils. The latter are defined in three ways. The widest group is all English-medium pupils in the Scottish Survey of Achievement. This has the advantage of giving highly reliable estimates because it is a very large sample; it has the disadvantage of not offering a particularly valid basis of comparison, because not much account can be taken of the social characteristics of Gaelic-medium pupils which differentiate them from their English-medium

counterparts. Two other comparisons with groups of English-medium pupils overcome this to some extent. As part of the official analysis of the Gaelic Survey, government statisticians selected a sample of English-medium pupils from the SSA who resembled the Gaelic pupils with respect to gender, levels of social deprivation, and Local Authority of their school, and who had taken the same two test booklets as were used in the Gaelic Survey; ‘deprived’ in this connection means that the pupil lives ‘in one of the 20% most deprived areas of Scotland as identified by the Scottish Index of Multiple Deprivation’ (Scottish Government, 2009, p. 3). We were provided with a note of which pupils were in this matched sample, and so we used this as the second comparison group for the Gaelic-medium pupils. However, very few (only 1%) of these matched pupils were in schools with a Gaelic-medium stream. Therefore the third comparison group is English-medium pupils in schools that do have a Gaelic stream, a comparison which draws validity from holding constant the contexts in which the Gaelic-medium and English-medium pupils live and study.

For Primary 5 and Primary 7, we have placed greater emphasis on the comparison between Gaelic-medium and English-medium pupils than on the comparison of Gaelic-medium pupils against attainment targets because the attainment of English-medium pupils gives an estimate of what might reasonably be expected of pupils, especially at Primary 7 for language and (at all stages) in domains other than language. For example, if (as we report below, in relation to Table 6 in Section 3.2) we find that the majority of Gaelic-medium pupils in Primary 7 fall short of the target of attaining level D in science, in understanding why that has happened it is important to know whether their English-medium peers fall short similarly. Nevertheless, where appropriate, we do place emphasis on the attainment of Gaelic-medium pupils in relation to expected attainment. For the earliest school stage (Primary 3), and to a certain extent also for Primary 5, the comparison between the English-medium and Gaelic-medium streams so far as language attainment is concerned is not valid, and so the comparative data on attainment in English presented at these stages may best be described as demonstrating the pattern of bilingual development of the Gaelic-medium pupils.

The distribution of pupils into the four groups (Gaelic-medium and the three English-medium comparison groups) is shown in Table 3. Note that the three English-medium groups are not mutually exclusive. Also shown in Table 3 is the geographical distribution of pupils among those Local Authorities that have the largest number of schools with a Gaelic-medium stream (Highland, Comhairle nan Eilean Siar, and Argyll and Bute) and a category consisting of the 11 other Local Authorities that provide Gaelic-medium primary education. We were not given access to detailed information regarding school participation within this fourth category because of the need to protect the anonymity of the schools which are the sole Gaelic-medium provider in their area. The small sample size for English-medium pupils in Comhairle nan Eilean Siar, especially, is because it was not an Authority that chose to have a larger-than-proportional sample size (as explained in Section 2.1.1 above) and also because the participation rate of English-medium pupils in CNES was much lower than the approximately 80% nationally. (As noted above, in connection with Table 2, we too had a lower response rate from this Authority in our survey of schools.) Small sample size is also the main reason why there are no English-medium pupils in our sample from schools with a Gaelic-medium stream from Comhairle nan Eilean Siar and Argyll and Bute. There were a few such English-medium pupils from these two Authorities in the SSA, but there was no corresponding data on teacher judgements of

these pupils' attainment, and so they could not be used in our analysis. Thus, information from pupils in Gaelic-medium and English-medium streams of the same school was available only for schools in the area governed by the Highland Council.

Table 3
Sample size, classified by Local-Authority area (Primary 5 and Primary 7 combined)
(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

Number of pupils in sample (in brackets number of schools in sample)	Argyll and Bute	Comhairle nan Eilean Siar	Highland	Other	Total
Gaelic medium	11 (2)	52 (10)	117 (13)	128 (8)	308 (33)
Matched English medium	6 (3)	1	29 (18)	277 (149)	313 (171)
English medium in schools with Gaelic medium	0	0	81 (9)	0	81 (9)
All of English medium	108 (9)	19 (4)	501 (47)	14832 (720)	15460 (780)

2.2.2 Statistical models

Apart from descriptive statistics (such as in Tables 6, 7 and 8), the main statistical analysis was by various forms of multi-level model. This technique is appropriate where data are clustered in some way, here as pupils within schools (Goldstein, 1995). Unless the clustering is taken into account, we are likely to under-estimate the standard errors and therefore to over-estimate statistical significance. A summary algebraic explanation of multi-level modelling is given in Appendix 2. The results of the models are presented in Tables in terms of the estimated difference in attainment between Gaelic-medium pupils and English-medium pupils. The criterion for there being such a difference is taken to be that the evidence is reliable at the 5% level of statistical significance. This means that, if there is truly no difference between the groups, there is a 5% chance that we will be mistaken in concluding that there is a difference. The statistical tests are all in the form of t-tests, calculated by dividing the estimated difference in attainment by its estimated standard error. We attach statistical significance to differences which have a t-value greater than about 2.

2.2.3 Interviews

The transcripts of the interviews with parents, headteachers and Local-Authority advisers were analysed for recurring themes, which resulted in six broad themes: attainment, reasons for choosing or not choosing Gaelic medium at primary school, reasons for continuing or not continuing from Gaelic medium at primary to Gàidhlig and Gaelic medium at secondary, provision of Gaelic medium at primary and secondary, context of school and community in which Gaelic-medium education takes place, and Gaelic for learners. These six themes were further analysed into the more detailed categories noted in the headings of the sub-sections in Section 4. The five broad themes other than attainment are analysed in their own right. Comments on attainment were selected to be those that cast light on the statistical results. Comments

were also drawn from the interviews which O'Hanlon conducted in 2007-8 with pupils and teachers, using the analysis which she had previously carried out. The provisional results of her analysis helped to inform the design of the analysis of the interviews that were conducted specially for the present project. Preliminary ideas for our analysis were also developed during the period in which the interviews were being conducted: we wrote and discussed summary notes of each interview, thus ensuring that a fairly well-defined coding framework for the transcripts had been tested informally against new interviews by the time the series of interviews was completed.

Throughout our reporting of interview comments, the order of presentation is analytical, and does not imply anything about the relative importance that the respondents would attach to the different themes. Assessing such an order of the importance of reasons could not be validly undertaken with the research design that we used, which was exploratory and was intended to elicit the organising principles that govern respondents' views about Gaelic education. Weighing the relative prominence of the views adduced by respondents would require a different research design, a point to which we return in Section 5.1.

We have adopted some terminological conventions in order to protect the anonymity of respondents. We use the term 'stream' – for example, 'Gaelic-medium primary-school stream' – to cover all kinds of Gaelic-medium provision, whether or not the school also has an English-medium stream; often we simply use the term 'Gaelic medium' to indicate the same concept. In order to give some geographical context to quotations, we mention respondents' location under three headings, referred to by variations on the terms 'Lowland', 'Gaelic-speaking area of the Highlands and Islands', and 'area of the Highlands and Islands where little Gaelic is spoken'. We omit most specific place-names and all personal names used by respondents.

3. Results: attainment

3.1 School survey

Table 4 summarises the results of the analysis of the data on pupil attainment in session 2008-9 obtained by our questionnaire survey of schools. It shows the proportion of pupils in the Gaelic-medium and English-medium streams at each primary stage, or of pupils taking and not taking Gàidhlig at Secondary 2, whom the school judges to have passed the national assessment at the specified level. At Primary 3, many schools have not yet tested their Gaelic-medium pupils in English, reflecting the Gaelic 5-14 curricular guidelines, as explained in the Introduction. Information from schools which do test Gaelic-medium pupils in English reading and writing at Primary 3 shows that Gaelic-medium pupils tend to have lower attainment than English-medium pupils in English reading and writing. In English reading, the proportions having reached level B were 10% of Gaelic medium and 34% of English medium. In English writing the proportions were 4% and 36%. There was no difference between the streams in Primary 3 for English listening and talking. In Primary 5, Primary 7 and Secondary 2, however, there is no longer any statistically reliable evidence in our survey of a difference in any aspect of attainment between the two groups of pupils, although there is some weak evidence in Primary 7 and Secondary 2 that the Gaelic-medium or Gàidhlig pupils might now have higher attainment than the English-medium or non-Gàidhlig pupils in English reading and writing. In Primary 7, in English reading, the percentages passing the expected level D are 82% in Gaelic medium and 74% in English medium; in English writing at Primary 7, the respective proportions are 70% and 51%. In Secondary 2, in English reading, the percentages passing the expected level E are 76% among those taking Gàidhlig and 56% among those not doing so; in English writing, the respective proportions are 69% and 48%. Although there might be some evidence, too, that in Secondary 2 the pupils taking Gàidhlig have lower attainment in English listening than those not taking Gàidhlig (76% against 97%), we should treat this apparent difference with caution because it is based on the comparison between pupils taking Gàidhlig in only six schools and pupils not taking Gàidhlig in only two.

In light of the policy on Gaelic-dominant language models in Gaelic-medium education (as outlined in Section 1.1), we might ask whether the Gaelic-medium pupils perform better in Gaelic than in English, at any of the stages. Table 5 shows pupil attainment in Gaelic at each of the three stages. Statistical models comparing this with the attainment in English of the same group of pupils (Table 4, Gaelic medium) showed no reliable evidence of any differences, but that is partly because of the small numbers of pupils in the Gaelic-medium sample from our survey of schools. The main points, though, are evident without formal statistical tests: in Primary 3, Gaelic-medium pupils have almost as low attainment in Gaelic reading and writing (14% and 12% passing level B) as they do in English reading and writing (10% and 4%). Nevertheless, by Primary 5, Gaelic attainment has risen in the same way as English attainment among the Gaelic-medium pupils, and this is sustained into Primary 7 and, for Gàidhlig pupils, Secondary 2 (any differences probably being due to chance).

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Table 4
Attainment, by school stage and whether in Gaelic-medium education:
percentage¹ passing level shown

(Source: Survey of Schools, 2009)

	English reading	English writing	English listening	English talking	Mathematics	Science
Primary 3 (level B)						
Gaelic medium ³	10	4	54	56		
English medium	34	36	54	54		
Difference ²	*	*				
Primary 5 (level C)						
Gaelic medium	62	52	79	79		
English medium	53	43	58	58		
Difference ²						
Primary 7 (level D)						
Gaelic medium	82	70	85	87	74	75
English medium	74	51	79	79	70	77
Difference ²						
Secondary 2 (level E)						
Taking Gàidhlig	76	69	76	70	73	50
Not taking Gàidhlig	56	48	97	73	53	61
Difference ²						
<i>Sample sizes: number of schools (number of pupils)</i>						
Primary 3						
Gaelic medium	13 (59)	12 (57)	15 (70)	15 (70)		
English medium	22 (361)	22 (361)	18 (222)	18 (222)		
Primary 5						
Gaelic medium	22 (163)	22 (163)	18 (141)	18 (141)		
English medium	25 (468)	25 (468)	19 (247)	19 (247)		
Primary 7						
Gaelic medium	27 (169)	27 (169)	20 (121)	20 (121)	27 (169)	20 (128)
English medium	27 (533)	27 (533)	19 (280)	19 (280)	26 (529)	16 (273)
Secondary 2						
Taking Gàidhlig	15 (134)	14 (132)	6 (34)	8 (71)	14 (124)	4 (20)
Not taking Gàidhlig	11 (724)	10 (709)	2 (32)	4 (116)	10 (710)	1 (18)

Notes:

¹ Percentages are weighted by the number of pupils in the relevant school stage, and so give an estimate of the proportion of pupils in these schools reaching the specified level of attainment.

² A star (*) in this row indicates that the difference is statistically significant at the 5% level or stronger in a multilevel model with levels being pupils and schools, and with both the intercept and the difference between streams varying among schools.

³ Note that many schools do not test Gaelic-medium pupils in English in Primary 3, as reflected in the sample sizes: see Introduction for further information.

To summarise Tables 4 and 5 we can say that, by the end of primary school, most pupils in both Gaelic medium and English medium are judged by their schools to have reached the level of attainment expected of pupils at that stage (level D of the 5-14 testing programme) in English reading, writing, talking and listening, mathematics and science, with the possible exception of English writing in the English-medium group. Most pupils in Gaelic medium are judged to have reached this level in Gaelic reading, writing, talking and listening.

Table 5
Attainment in Gaelic, by school stage:
percentage¹ passing level shown

(Source: Survey of Schools, 2009)

	Gaelic reading	Gaelic writing	Gaelic listening	Gaelic talking
Primary 3 (level B)	14	12	30	29
Primary 5 (level C)	64	44	73	73
Primary 7 (level D)	79	68	80	81
Secondary 2 (level E)	73	54	69	61

Sample sizes: number of schools (number of pupils)

Primary 3	25 (218)	25 (218)	23 (198)	23 (198)
Primary 5	24 (192)	24 (192)	21 (165)	21 (165)
Primary 7	27 (193)	27 (193)	23 (156)	23 (156)
Secondary 2	14 (125)	14 (125)	11 (83)	11 (83)

Note:

¹ Percentages are weighted by the number of pupils in the relevant school stage, and so give an estimate of the proportion of pupils in these schools reaching the specified level of attainment.

3.2 Scottish Survey of Achievement: descriptive statistics

The remainder of the statistical analysis uses the data from the Scottish Survey of Achievement (SSA) of 2007 and the Survey of Gaelic Education in that same year. The main concern of the SSA in 2007 was to investigate attainment in science, and so this was also the dominant topic of the Gaelic Survey. Teachers' judgements of pupils' levels of achievement in other subjects were also collected, and we analyse these to provide a broad account, but it has to be borne in mind, as discussed in Section 2.1.2 above, that teacher judgements are less accurate than the results of the formal tests administered by the SSA in science (Munro and Johnson, 2008).

Table 6 summarises the results of the formal science tests, showing the proportion of pupils who passed at levels B, C or D in Primary 5, and at C, D or E in Primary 7. (Passing is defined to be achieving 65% or more in a test.) At each stage, information is provided for pupils in Gaelic-medium education and for the three English-medium groups with whom we might compare them: the sample of English-medium pupils who were judged by the SSA statisticians to be closely matched to the Gaelic-medium group (as explained in the Data and Methods Section); English-medium pupils in schools which contain a Gaelic stream; and all English-medium pupils in the SSA. The second of these comparison groups (English medium in schools with Gaelic-

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medium provision) is small, and confined to Highland only (see Table 3), and so results for it have to be treated with caution. Formal statistical tests of the reliability of the comparisons follow below, in connection with the statistical modelling. For the discussion of Tables 6, 7 and 8, we merely provide a broad impression of the statistical patterns.

Table 6
Pupil attainment in science, classified by whether or not in Gaelic-medium education
(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

	Attainment level (% passed ¹)			
	Lower than B	B not higher	C not higher	D
Primary 5 ²				
Gaelic medium	48	35	16	2
Matched English medium	53	32	13	1
English medium in schools with Gaelic medium	42	47	7	4
All of English medium	51	39	9	1
Primary 7 ³				
Gaelic medium	55	34	9	2
Matched English medium	63	30	5	2
English medium in schools with Gaelic medium	61	25	14	0
All of English medium	74	20	4	2

Notes:

¹ A pupil is defined as having passed the test at the level specified if a mark of 65% or better was obtained. 'Lower than B' in Primary 5 means those who did not gain this mark in the level B, level C or level D tests, and likewise for 'lower than C' in Primary 7.

² Primary 5 sample sizes: Gaelic medium: 168; matched English medium: 164; English medium in schools with Gaelic-medium stream: 45; all of English medium: 7631.

³ Primary 7 sample sizes: Gaelic medium: 140; matched English medium: 149; English medium in schools with Gaelic-medium stream: 36; all of English medium: 7829.

The main point of note in Table 6 is that most pupils, in whichever group, are operating in science below what is expected of them at that stage. This is formally true of Primary 7, where most pupils are expected to attain level D, and yet this is reached by only 6% of all English-medium pupils and 11% of Gaelic-medium pupils. More informally, it might also be said of Primary 5 and level C, but that level is meant to be attained by the end of Primary 6. Although the Gaelic-medium pupils in Primary 5 may appear to be somewhat less far behind in achieving the expected level than the English-medium pupils, the differences are small when we consider the sample sizes (a point we take formally into account below).

At Primary 7, the Gaelic-medium pupils still might appear to have somewhat higher attainment than the matched sample, but again the sample sizes would make such a conclusion unreliable. The most striking contrast is that the Gaelic-medium pupils, and the first two groups of English-medium pupils (the matched group, and the group in the same schools as Gaelic-medium pupils), perform markedly better than the national average as represented by the English-medium group taken as a whole: 74% of all English-medium pupils fail to reach level C in science in Primary 7, whereas the percentages in the other three groups are 63, 61 and 55. This similarity of the first

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Table 7
Teachers' judgements of pupil attainment, classified by whether or not in Gaelic-medium education:
Primary 5

(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

Percentage in rows¹

		Attainment level			
		A or lower	B	C	D or higher
Science	Gaelic medium	2	32	62	4
	Matched English medium	5	43	51	1
	English medium in schools with Gaelic medium	4	33	60	2
	All of English medium	4	39	56	2
Mathematics	Gaelic medium	2	38	53	7
	Matched English medium	3	45	50	2
	English medium in schools with Gaelic medium	2	36	58	4
	All of English medium	4	38	55	4
English reading	Gaelic medium	1	21	71	6
	Matched English medium	4	34	52	10
	English medium in schools with Gaelic medium	9	33	38	20
	All of English medium	5	29	56	10
English writing	Gaelic medium	4	42	50	4
	Matched English medium	9	38	48	5
	English medium in schools with Gaelic medium	7	44	44	4
	All of English medium	8	41	47	5
Gaelic reading	Gaelic medium	2	28	57	13
Gaelic writing	Gaelic medium	5	44	46	5

Sample sizes: Gaelic medium: 168; matched English medium: 164; English medium in schools with Gaelic-medium stream: 45; all of English medium: 7631.

Note:

¹ *The percentages do not all add up to 100 exactly because of rounding.*

three Primary 7 groups in the table (Gaelic medium, matched English medium and English medium in schools with a Gaelic-medium stream) suggests that the higher attainment in Gaelic medium is due mainly to the characteristics of the pupils who enter these streams (because the matched sample has attainment closer to the Gaelic-medium pupils than to the national average for English medium), or to the characteristics of schools which contain Gaelic streams (because the English-medium pupils in such schools also have attainment closer to the Gaelic-medium pupils than to the national average for English medium). We return to this point below.

Tables 7 and 8 look at teacher judgements of pupil attainment, thus allowing us to analyse other subjects as well as science. For science, in comparison to Table 6, it is clearly evident that teachers are more optimistic in their assessment than would be warranted by the results of the formal tests given as part of the SSA: for example, in Primary 5, whereas teachers judge that 66% of Gaelic-medium pupils have attained at least level C (Table 7, first row: 62% plus 4%), the tests suggested that a more accurate estimate would be 18% (Table 6, first row: 16% plus 2%). Nevertheless, as explained in the Data and Methods Section, there is no reason to believe that the discrepancy between teacher judgements and test results is any greater for Gaelic-medium pupils than for English-medium pupils, and so the comparison among the groups of pupils in Tables 7 and 8 should not be vitiated.

The pattern of differences in attainment between the Gaelic-medium and English-medium pupils for science in Primary 5 (Table 7) is similar to that obtained from the test results in Table 6. Sixty-six per cent of Gaelic-medium pupils are judged to have reached level C or better, higher than in each of the other groups (52% in the matched group, 62% among English-medium pupils in schools with Gaelic streams, and 58% among English-medium pupils overall). Nevertheless, these differences are still not large, especially if we bear in mind the sample sizes (a point to which we return), and so we should say that there is broad similarity of attainment amongst the groups.

The same patterns of attainment are true of mathematics in Primary 5, where the percentages of pupils judged to have reached at least level C are very close to those for science. In English reading, however, the Gaelic-medium pupils have a clear advantage: 77% of them are judged to have reached level C or better, compared, for example, to 62% of English-medium pupils in the matched group. There is no such advantage for Gaelic-medium pupils in English writing, and, even in reading, it is notable that any Gaelic-medium advantage is no longer evident at the highest level of expected potential achievement: 6% of Gaelic-medium pupils are judged to have reached level D in English reading in Primary 5, in contrast to around double that (or more) in the other groups.

The final notable comparison for Primary 5 is between attainment in Gaelic and in English for the Gaelic-medium group. There is in fact little difference: there is almost none in writing (54% at level C or better in English, 51% in Gaelic), and hardly any in reading (77% compared to 70%). This similarity between the bilingual pupils' literacy attainment across their two languages, and the contrast with the various groups of English-medium pupils with regard to English reading, do suggest a consolidation of reading skills in the Gaelic-medium group.

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Table 8
Teachers' judgements of pupil attainment, classified by whether or not in Gaelic-medium education:
Primary 7

(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

		Percentage in rows ¹			
		Attainment level			
		B or lower	C	D	E or higher
Science	Gaelic medium	1	31	69	0
	Matched English medium	2	22	71	6
	English medium in schools with Gaelic medium	0	14	83	3
	All of English medium	5	24	65	7
Mathematics	Gaelic medium	2	16	56	26
	Matched English medium	3	18	58	21
	English medium in schools with Gaelic medium	0	19	64	17
	All of English medium	4	19	58	19
English reading	Gaelic medium	3	4	45	48
	Matched English medium	1	16	45	38
	English medium in schools with Gaelic medium	0	11	53	36
	All of English medium	5	15	45	35
English writing	Gaelic medium	3	23	58	16
	Matched English medium	4	25	53	18
	English medium in schools with Gaelic medium	3	17	47	33
	All of English medium	8	26	50	17
Gaelic reading	Gaelic medium	5	12	63	20
Gaelic writing	Gaelic medium	9	27	54	10

Sample sizes: Gaelic medium: 140; matched English medium: 149; English medium in schools with Gaelic-medium stream: 36; all of English medium: 7829.

Note:

¹ *The percentages do not always add up to 100 exactly because of rounding.*

In Primary 7 (Table 8), the teachers' judgements of the differences among the pupil groups in science would not lead to our concluding that the Gaelic-medium pupils are performing better than English-medium pupils as a whole. There is also judged to be little Gaelic-medium advantage in Primary 7 in mathematics, although there might be some evidence of a Gaelic-medium advantage at the highest level

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(level E or better: 26% compared to 19%). Any Gaelic-medium advantage in English reading at Primary 5 seems to have reduced but is still palpable by Primary 7: at the highest level of potential attainment, 48% of Gaelic-medium pupils are judged to have reached level E in contrast to 35% of English-medium pupils as a whole, and – as in Primary 5 – this advantage is not shared by the matched English-medium group or by English-medium pupils in the schools with Gaelic streams. As in Primary 5, there is little reliable evidence of any difference in English writing between the Gaelic-medium and English-medium groups (when we remember the small sample size for the English-medium pupils in the schools with Gaelic streams).

However, there is also some evidence that Gaelic-medium pupils' attainment in Gaelic has slipped behind that in English by Primary 7. In reading, 83% of the Gaelic-medium pupils are judged to have reached level D or better in Gaelic, compared with 93% in English; in writing, the analogous numbers are respectively 64% and 74%. The contrast is particularly sharp in reading at the highest level of potential attainment: the proportion of Gaelic-medium pupils judged to have reached level E is 48% in English reading but 20% in Gaelic reading. We return to this point later.

Table 9
Gender and deprivation, classified by whether or not in Gaelic-medium education
(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

		Percentage female	Percentage deprived ¹
Primary 5	Gaelic medium	57	8
	Matched English medium	56	9
	English medium in schools with Gaelic medium	53	0
	All of English medium	49	18
Primary 7	Gaelic medium	56	6
	Matched English medium	55	7
	English medium in schools with Gaelic medium	47	6
	All of English medium	50	18

Sample sizes:

Primary 5: Gaelic medium: 168; matched English medium: 164; English medium in schools with Gaelic-medium stream: 45; all of English medium: 7631.

Primary 7: Gaelic medium: 140; matched English medium: 149; English medium in schools with Gaelic-medium stream: 36; all of English medium: 7829.

Note:

¹ *Percentage of pupils in the 20% most deprived category in the Scottish Index of Multiple Deprivation: see Data and Methods Section.*

3.3 Scottish Survey of Achievement: statistical modelling of attainment

The discussion so far of the tables from the Scottish Survey of Achievement has taken no formal account of statistical uncertainty arising from the fact that the data come from random samples of the pupil population; nor has it attempted to allow for differences in the characteristics of the pupils in each of the four groups. Sampling variability has to be taken into account because several of the sample sizes are small,

especially for English-medium pupils in schools that have a Gaelic stream. The clustering of pupils in schools also has to be allowed for with regard to sampling variability, for the reasons explained in Section 2.2.2.

Table 9 shows that there are sizeable differences between the Gaelic-medium group and two of the English-medium groups, the exception being of course the matched English-medium group, which was designed to keep such differences to a minimum. Gaelic medium contains a higher proportion of girls than the other categories: 57% in Primary 5 and 56% in Primary 7, in contrast, for example, to 49% and 50% in English medium as a whole. Gaelic medium also contains a lower percentage of pupils living in the most socially deprived circumstances: at Primary 5, there are 8% compared to 18% for English medium as a whole; at Primary 7 there are 6% as against 18%. It is important to note that the proportion who were living in such circumstances among English-medium pupils attending schools that have a Gaelic-medium stream is actually slightly lower than the proportion of Gaelic-medium pupils. (This is shown in Table 9 for Primary 5 and Primary 7 separately; combining the stages, we find that the Gaelic-medium streams have 7% of pupils in the deprived category, whereas the English-medium streams in schools with a Gaelic-medium stream have 3%.) This pattern suggests that the relatively low level of social deprivation among Gaelic-medium pupils is less a consequence of parental self-selection than of the location of the schools containing Gaelic streams. These schools are predominantly rural, while the areas of highest social deprivation are overwhelmingly urban. Nevertheless, in the two Local-Authority areas where (combining Primary 5 and Primary 7) there are enough sample members in both streams to make reliable calculations, the difference between deprivation levels in Gaelic medium and the whole of English medium remains: in Highland, the proportions in the 'deprived' category are respectively 2% and 4%; in the category of other Authorities, they are 14% and 19%.

The point about these differences with respect to gender and deprivation is that they generally work towards increasing the average attainment of pupils in Gaelic-medium classes, because pupils who are living in socially deprived circumstances tend to have lower-than-average attainment, and boys tend in most domains of study (though not most aspects of science) to have lower attainment than girls. The results of statistical models controlling for deprivation and gender, and incorporating the clustering of pupils in schools into the estimates of variability, are shown in Tables 10 to 14.

The models in Table 10 use the full data set, and so they compare Gaelic-medium pupils with all English-medium pupils anywhere in Scotland, controlling for gender and deprivation: that is, they estimate what the difference between Gaelic-medium and English-medium attainment would be if these two groups of pupils had the same proportion of girls and the same proportion of pupils living in deprived social circumstances. The estimates of the difference are on the logistic scale (as explained in Appendix 2), and a positive value means that the Gaelic-medium group has higher average attainment than the English-medium group. Whether there is reliable evidence that there is a real difference between the groups may be assessed by comparing the estimated difference with its standard error: see Section 2.2.2. Thus, for example, the estimated difference for passing the science test at level C in Primary 5 is 0.73, with a standard error of 0.25; the t-value, which is the ratio of these two, is

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2.9, and so there is strong evidence of a difference between the two groups, in favour of Gaelic medium.

In no case in Table 10 is there evidence that Gaelic-medium pupils have lower attainment than English-medium pupils, and in three cases there is evidence of a Gaelic-medium advantage – passing science at level C in Primary 5, teachers’ judgement that English reading has been passed at level C in Primary 5, and teachers’ judgements that English reading has been passed at level D in Primary 7.

Table 10
Comparison of the attainment of Gaelic-medium and English-medium pupils:
results of statistical models using full survey¹

(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

	Primary 5: dependent variable is passing ² level C		Primary 7: dependent variable is passing ² level D	
	Logistic regression coefficient ³ (positive means Gaelic- medium higher)	Standard error	Logistic regression coefficient ³ (positive means Gaelic- medium higher)	Standard error
Science test	0.73*	0.25	0.55	0.36
Teacher judgement of science	-0.21	0.27	-0.12	0.29
Teacher judgement of mathematics	-0.004	0.25	0.33	0.29
Teacher judgement of English reading	0.49*	0.25	1.06*	0.36
Teacher judgement of English writing	-0.12	0.24	0.28	0.25

Notes:

* indicates statistically significant at 5% level or stronger.

¹ The data set consists of all P5 or P7 English-medium pupils in the Scottish Survey of Achievement 2007, and also P5 or P7 pupils in the Survey of Gaelic Education in 2007. See Data and Methods Section for further information.

² ‘Passing’ means achieving 65% or better in the tests of attainment at the specified level (first row of results), or being judged to be at that level (or better) by the teacher (remaining rows).

³ The coefficient recording the difference between the attainment of Gaelic-medium and English-medium pupils in a multilevel logistic regression that has the intercept varying at pupil and school level, and that controls for pupil gender and pupil deprivation: see Appendix 2 for further information. A positive value of the coefficient means that the Gaelic-medium pupils had higher attainment than the English-medium pupils.

The strengths of Table 10 are that it puts Gaelic-medium attainment in a national context, and also that it is based on a large sample for the English-medium comparison. The limitation is that the two groups of pupils may differ in many ways – other than those for which we have controlled statistically (gender and deprivation) – that might affect attainment, and that are not related to the different language of education of the two groups. Table 11 allows for some of these deficiencies by showing the same models now comparing Gaelic-medium pupils with the matched English-medium pupils. The standard errors are larger, because the English-medium sample size is much smaller. There is still no evidence that Gaelic-medium attainment is lower. There is no longer any evidence of a Gaelic-medium advantage in level C science in Primary 5, mainly because the size of the estimated difference has fallen (from 0.73 in Table 10 to 0.33 in Table 11), rather than because of the larger standard

error. However, the advantage in English reading at both Primary 5 and Primary 7 remains, and the estimated size of these two coefficients has not diminished (0.49 and 0.68 in Primary 5; 1.06 and 1.04 in Primary 7).

Because the matched English-medium pupils took the same tests in science as the Gaelic-medium pupils, we can also compare these two groups using their percentage scores in the tests, not merely (as in Table 11) whether they passed. Table 12 does this, and now there is some evidence of a difference in favour of Gaelic medium: for technical reasons, tests using linear models (Table 12) are more statistically powerful than tests using logistic models (Table 11). In Table 12, unlike in Tables 7 and 8, we have included results for tests at three levels at each of Primary 5 and Primary 7. In Primary 5, there is clear evidence of a difference in favour of Gaelic medium for the test at level B, and moderately strong evidence for level C (t-value of 1.9, not quite reaching the threshold value of 2 required for statistical significance (see Section 2.2.2)). In Primary 7, there is clear evidence of a difference in favour of Gaelic medium at level D. There is no evidence that Gaelic-medium attainment is lower than the attainment of the matched English-medium pupil group at Primary 5 or Primary 7.

Comparing Gaelic-medium pupils with the matched group of English-medium pupils has many advantages over comparison with the group representing all English-medium pupils, but still does not allow for differences in the pupils' school or community contexts. The next comparison (shown in Table 13) does so by confining

Table 11
Comparison of the attainment of Gaelic-medium and English-medium pupils:
results of statistical models using matched pupils¹
(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

	Primary 5: dependent variable is passing ² level C		Primary 7: dependent variable is passing ² level D	
	Logistic regression coefficient ³ (positive means Gaelic medium higher)	Standard error	Logistic regression coefficient ³ (positive means Gaelic medium higher)	Standard error
Science test	0.33	0.34	0.73	0.54
Teacher judgement of science	0.23	0.34	-0.35	0.35
Teacher judgement of mathematics	0.33	0.33	0.30	0.37
Teacher judgement of English reading	0.68*	0.28	1.04*	0.42
Teacher judgement of English writing	-0.068	0.30	0.21	0.34

Notes:

* indicates statistically significant at 5% level or stronger.

¹ The data set consists of P5 or P7 pupils in the Survey of Gaelic Education in 2007 and a sample of English-medium pupils in P5 or P7 in the Scottish Survey of Achievement 2007 who were chosen to match the characteristics of the pupils in the Survey of Gaelic Education. See Data and Methods Section.

² 'Passing' means achieving 65% or better in the tests of attainment at the specified level (first row of results), or being judged to be at that level (or better) by the teacher (remaining rows).

³ The coefficient recording the difference between the attainment of Gaelic-medium and English-medium pupils in a multilevel logistic regression that has the intercept varying at pupil and school level, and that controls for pupil

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gender and pupil deprivation: see Appendix 2 for further information. A positive value of the coefficient means that the Gaelic-medium pupils had higher attainment than the English-medium pupils.

Table 12
Comparison of the science attainment of Gaelic-medium and English-medium pupils:
results of statistical models using matched pupils¹
(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

	Primary 5		Primary 7	
	Regression coefficient ² (positive means Gaelic-medium higher)	Standard error	Regression coefficient ² (positive means Gaelic-medium higher)	Standard error
dependent variable is percentage score in the tests				
Science tests				
Level B	4.5*	1.6	not tested ³	
Level C	3.9	2.1	3.3	1.9
Level D	3.0	1.6	4.6*	1.8
Level E	not tested ³		-1.0	2.2

Notes:

* indicates statistically significant at 5% level or stronger.

¹ The data set consists of P5 or P7 pupils in the Survey of Gaelic Education in 2007 and a sample of English-medium pupils in P5 or P7 in the Scottish Survey of Achievement 2007 who were chosen to match the characteristics of the pupils in the Survey of Gaelic Education. See Data and Methods Section for further information.

² The coefficient recording the difference between the attainment of Gaelic-medium and English-medium pupils in a multilevel linear regression that has the intercept varying at pupil and school level, and that controls for pupil gender and pupil deprivation: see Appendix 2 for further information. A positive value of the coefficient means that the Gaelic-medium pupils had higher attainment than the English-medium pupils.

³ Primary 5 pupils took tests at levels B, C and D, and Primary 7 pupils took tests at levels C, D and E.

Table 13
Comparison of the attainment of Gaelic-medium and English-medium pupils:
results of statistical models using only pupils in schools which have a Gaelic-medium stream¹
(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

	Primary 5: dependent variable is passing ² level C		Primary 7: dependent variable is passing ² level D	
	Logistic regression coefficient ³ (positive means Gaelic-medium higher)	Standard error	Logistic regression coefficient ³ (positive means Gaelic-medium higher)	Standard error
Science test	0.91	0.59	-0.58	0.63
Teacher judgement of science	-0.63	0.45	-0.51	0.54
Teacher judgement of mathematics	-0.045	0.43	0.54	0.54
Teacher judgement of English reading	1.05*	0.42	0.50	0.68
Teacher judgement of English writing	-0.27	0.41	-0.067	0.55

Notes:

* indicates statistically significant at 5% level or stronger.

¹ The data set consists of P5 or P7 pupils in the Survey of Gaelic Education in 2007 and all pupils in the Scottish Survey of Achievement 2007 in P5 or P7 in schools with a Gaelic-medium stream. See Data and Methods Section for further information.

² 'Passing' means achieving 65% of better in the tests of attainment at the specified level (first row of results), or being judged to be at that level (or better) by the teacher (remaining rows).

³ The coefficient recording the difference between the attainment of Gaelic-medium and English-medium pupils in a multilevel logistic regression that has the intercept varying at pupil and school level, and that controls for pupil

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gender and pupil deprivation: see Appendix 2 for further information. A positive value of the coefficient means that the Gaelic-medium pupils had higher attainment than the English-medium pupils.

the comparison to those English-medium pupils who are in the same schools as Gaelic-medium pupils. The sample sizes are now much smaller, and so the standard errors rise sharply. On the whole, though, and once we take the standard errors into account, we see that the regression coefficients in Table 13 are of similar magnitude to, or stronger than, those for the comparison with all English-medium pupils in Table 10. The comparison between Gaelic-medium and English-medium pupils for English reading in Primary 5 remains statistically significant. Once more there is no reliable evidence that Gaelic-medium pupils have lower attainment than English-medium pupils in any subject domain here presented.

Further elaborations of the models in these tables were introduced to test whether there were any interactive effects on pupil attainment of medium of education with gender, with deprivation, or with the Local Authority in which the school was located. These model, for example, whether gender differences regarding attainment are the same in Gaelic-medium education as in English-medium education, or whether the attainment differences between Gaelic medium and English medium are the same in each of the four categories of Local Authority that were shown in Table 3. There was no evidence of any such interactive effects. Note in particular, therefore, that the results cannot have been affected by the distribution of the sample between Local-Authority areas (as presented in Table 3).

The coefficients of each of the explanatory variables were further allowed to vary among schools, but in practice there was almost no evidence that such school level variation occurred. Thus we have not included these models in the report. It is notable that there was no reliable evidence that the difference between Gaelic-medium and English-medium attainment varied among schools.

The final comparison of attainment attempts to take account of the extra breadth of learning which being in Gaelic-medium education offers to pupils. Comparing attainment separately for each dimension of learning common to the Gaelic-medium and English-medium pupils, as we have been doing, does not allow for this, and indeed could be said to be unfair to Gaelic-medium pupils insofar as it does not allow their development of Gaelic-language skills to be given due credit. Table 14 therefore models the number of subjects in which pupils passed (at level C in Primary 5 and level D in Primary 7). Thus the maximum for English-medium pupils is four (those subjects shown in previous tables) whereas for Gaelic-medium pupils there is a maximum of six, the extra two being reading and writing in Gaelic. This measure would not necessarily show Gaelic medium in a better light than English medium, because it may be that the extra demands of learning through a language that is, in most cases, not their home language might temper the attainment of Gaelic-medium pupils in other subjects. Thus, in principle, Gaelic-medium pupils could perform less well than English-medium pupils according to this measure.

Nevertheless, at both Primary 5 and Primary 7, the Gaelic-medium advantage is clear, no matter which comparison group of English-medium pupils we choose. Moreover, the advantage is greater at Primary 7 than at Primary 5 (insofar as the regression coefficients are larger), which suggests that there was a reduction over time in any difficulties posed by studying the core subjects through the medium of a

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second or additional language. In further models not shown in the table, it appeared that there was no such Gaelic-medium advantage at the highest levels of attainment – in Primary 5 at level D, and in Primary 7 at level E – although attainment in Gaelic medium remained no lower than attainment in English-medium education using this measure.

Table 14
Comparison of breadth of attainment of Gaelic-medium and English-medium pupils
(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

	Primary 5: dependent variable is attainment ¹ at level C		Primary 7: dependent variable is attainment ¹ at level D	
	Regression coefficient ² (positive means Gaelic- medium higher)	Standard error	Regression coefficient ² (positive means Gaelic- medium higher)	Standard error
Full data set ³	1.09*	0.18	1.61*	0.16
Matched English- medium and Gaelic- medium pupils ⁴	1.36*	0.27	1.55*	0.24
Schools with Gaelic- medium stream ⁵	0.94*	0.35	1.49*	0.36

Notes:

* indicates statistically significant at 5% level or stronger.

¹ The dependent variable is the number of dimensions of learning in which the teacher has judged the pupil to have reached at least level C (Primary 5) or at least level D (Primary 7). The dimensions contributing to this are science, mathematics, English reading, English writing, Gaelic reading and Gaelic writing.

² The coefficient recording the difference between the attainment of Gaelic-medium and English-medium pupils in a multilevel linear regression that has the intercept varying at pupil and school level, and that controls for pupil gender and pupil deprivation: see Appendix 2 for further information. A positive value of the coefficient means that the Gaelic-medium pupils had higher attainment than the English-medium pupils.

³ The data set consists of all P5 or P7 English-medium pupils in the Scottish Survey of Achievement 2007, and also P5 or P7 pupils in the Survey of Gaelic Education in 2007. See Data and Methods Section for further information.

⁴ The data set consists of P5 or P7 pupils in the Survey of Gaelic Education in 2007 and a sample of English-medium pupils in P5 or P7 in the Scottish Survey of Achievement 2007 who were chosen to match the characteristics of the pupils in the Survey of Gaelic Education. See Data and Methods Section for further information.

⁵ The data set consists of P5 or P7 pupils in the Survey of Gaelic Education in 2007 and all pupils in the Scottish Survey of Achievement 2007 in P5 or P7 in schools with a Gaelic-medium stream. See Data and Methods Section for further information.

3.4 Scottish Survey of Achievement: the ethos surrounding learning

The analysis so far has been of pupil attainment. The next two tables are concerned with the environment in which the pupils study. They lay the basis for our testing whether such environmental differences might explain any of the differences in attainment between Gaelic-medium and English-medium pupils. Many questions were put to pupils and teachers in the Scottish Survey of Achievement and the Survey of Gaelic Education about styles of learning and teaching, confidence in learning and teaching, classroom ethos, and so on. We grouped the pupil questions into six scales and the teacher questions into eight scales in the manner outlined in Appendix 3: each scale was the sum of the coded questionnaire responses to the questions that were grouped within that scale. We then tested which of these scales differed between

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Gaelic-medium and English-medium pupils (for the pupil scales) or between schools that had a Gaelic stream and schools that did not have a Gaelic stream (for the teacher scales), because only where there is such a difference could a scale contribute to explaining any differences in attainment between Gaelic medium and English medium. Three pupil scales and two teacher scales differed in this way, and are shown in Tables 15 and 16.

Table 15
Comparison of ethos reported by pupils in Gaelic-medium and English-medium education
(Primary 5 and Primary 7 combined)

(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

		Difference between Gaelic medium and English medium (positive means Gaelic medium has a higher value on the scale)	
		Regression coefficient ¹	Standard error
Pupil confidence (high = more confident)	Full data set ²	-0.17*	0.051
	Matched English-medium and Gaelic-medium pupils ³	-0.21*	0.067
	Schools with Gaelic- medium stream ⁴	-0.19	0.12
Pupil engagement with scientific content (high = much engagement)	Full data set ²	-0.10	0.063
	Matched English-medium and Gaelic-medium pupils ³	-0.074	0.074
	Schools with Gaelic- medium stream ⁴	-0.042	0.10
Pupil perception of teacher's engagement with pupils (high = much engagement)	Full data set ²	0.17*	0.055
	Matched English-medium and Gaelic-medium pupils ³	0.15*	0.062
	Schools with Gaelic- medium stream ⁴	0.005	0.096

Notes:

¹ The coefficient recording the difference between reports by pupils in Gaelic-medium and in English-medium classrooms in a multilevel linear regression that has the intercept varying at pupil and school level and also has the Gaelic-English difference varying at school level (where that could be estimated).

² The data set consists of all P5 or P7 English-medium pupils in the Scottish Survey of Achievement 2007, and also P5 or P7 pupils in the Survey of Gaelic Education in 2007. See Data and Methods Section for further information.

³ The data set consists of P5 or P7 pupils in the Survey of Gaelic Education in 2007 and a sample of English-medium pupils in P5 or P7 in the Scottish Survey of Achievement 2007 who were chosen to match the characteristics of the pupils in the Survey of Gaelic Education. See Data and Methods Section for further information.

⁴ The data set consists of P5 or P7 pupils in the Survey of Gaelic Education in 2007 and all pupils in the Scottish Survey of Achievement 2007 in P5 or P7 in schools with a Gaelic-medium stream. See Data and Methods Section for further information.

In the first of these tables, we can see that Gaelic-medium pupils are less confident at science than English-medium pupils – even, it should be noted, than English-medium pupils in the same school (although the evidence here is slightly weaker ($t = 1.6$), and falls short of the level of statistical significance that we have been using where we judge a difference to be significant if t is greater than 2). There is weak evidence that Gaelic-medium pupils are less engaged with scientific content than the

average English-medium pupil, but this is probably not related to the language of their education, because there is no such evidence of difference for the comparison of Gaelic-medium pupils with the matched English-medium sample or the English-medium pupils in schools with a Gaelic stream. Teachers of Gaelic-medium pupils are judged by the Gaelic-medium pupils to be more engaged with them than teachers of English-medium pupils are so judged by the English-medium pupils, although again this is probably a matter of school rather than medium of education, because there is no such difference when the comparison is confined to schools with a Gaelic stream.

Table 16
Comparison of ethos reported by teachers in schools with and without a Gaelic-medium stream
(full data set; Primary 5 and Primary 7 combined)

(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

	Difference ¹	Standard error
Teacher experience (high = a lot of experience)	-0.14	0.085
Teacher view of pupils (high = approving)	0.094	0.07

Notes:

¹ The difference between the arithmetic average at school level calculated from the teacher scales in schools with and without a Gaelic-medium stream.

The statistical power to detect differences between groups of teachers is not great, and so the evidence of differences is rather weak and must be treated as no more than suggestive. In Table 16, we can see that schools with a Gaelic stream tend to have less-experienced teachers ($t = 1.6$), but that these teachers also view their pupils in a more positive light than teachers in the average school that does not contain a Gaelic-medium stream ($t = 1.3$). Moreover, in further analysis not shown in the table, we distinguished between teachers who reported using no Gaelic in teaching science and those who reported using some. (See below, in connection with Table 19.) This therefore compares teachers within the same school, unlike Table 16 which compares different kinds of school. It was found that teachers who reported using some Gaelic had less experience of teaching than their English-medium counterparts in the same school (an average difference of 0.42 on the scale, with t -value 1.3), but held similar views of the pupils (average difference -0.15; $t = 0.51$). Thus the positive view of pupils shown in Table 16 is a feature of the schools where Gaelic-medium streams are located, rather than specifically a distinction between the Gaelic-medium and English-medium streams in such schools.

Taken together, three of these five comparisons of ethos in Gaelic and English education at the pupil and teacher levels would be expected to work against high attainment in Gaelic medium because further analysis (not shown in the table) found that, across the data set as a whole, science attainment is generally lower among pupils who are less confident in the subject, or less engaged with scientific content, or whose teachers are less experienced. The other two comparisons do work in favour of Gaelic medium: these are that, compared to English medium, Gaelic-medium teachers are judged to be more engaged with pupils, and that teachers in schools with a Gaelic-

medium stream view their pupils in a more positive light. Not surprisingly, therefore, when the earlier multilevel models are augmented by including all five ethos scales as further statistical controls, the conclusions do not substantially change: generally, the estimate of the difference that was already present (and as has been discussed above) is larger. Unfortunately, because it is not possible to link pupils with their own teachers using the Scottish Survey of Achievement data, these models allow only for the influence of teachers on the school as a whole, not directly for their influence on their own classes.

The analysis of the ethos surrounding learning allows us to say something about an issue that is often raised in connection with Gaelic-medium education, that of class size. In our interviews (as we explain below, in Section 4.1.3.1), a belief that small class sizes have beneficial effects was raised by several parents as a reason that they sent their children to Gaelic medium, and several headteachers similarly cited class size as a factor in parental decisions for Gaelic-medium education. However, there was also recognition by some respondents that, as the Gaelic-medium sector grows, this feature is not as pronounced as it once was. We do not have the data to allow us to study this question directly because the Scottish Survey of Achievement does not collect information on class size. In any case many dual-stream primary schools organise their Gaelic-medium stream as composite classes, grouping together several stages. In a survey in 2007 conducted for her doctoral research, O'Hanlon found that most schools with a Gaelic-medium stream used composite classes: in the 31 schools responding to the survey that had a Primary 7 Gaelic-medium class in that year, 29 combined that class with Gaelic-medium pupils from at least one other stage; the analogous numbers for Primary 5 were 31 out of 32. Only detailed information on the incidence of that practice in both Gaelic-medium and English-medium education would allow us to take account of class size. Nevertheless, our information on ethos does in some respects provide a more educationally meaningful measure than information on class size. Research on the possible effects of class size on pupils' progress and attainment has typically concluded that the quality of the interactions that take place in the classroom is more important than the size of the class itself (Wilson, 2002, 2006). If small classes are beneficial, this is probably because their size enables the teacher to advise and respond specifically to each child more often than in large classes, and also allows the teacher to encourage educationally valuable interactions among the pupils themselves. Insofar as our measures of ethos give us direct information on the nature of classroom interactions, we are able to model the potential effects of some of the concomitants of small classes; and because we have found such aspects to have only minimal effects on the difference between Gaelic-medium and English-medium attainment, we may tentatively conclude that class size is not an explanation of the somewhat higher attainment in Gaelic-medium streams.

3.5 Scottish Survey of Achievement: attainment in Gaelic

All the formal statistical analysis so far has compared Gaelic-medium and English-medium pupils, but – except in the modelling of breadth of attainment – this has meant that we have had to set aside the presentation of data on attainment in Gaelic itself. The final topic is to analyse and discuss Gaelic-medium pupils' attainment in Gaelic. Tables 17 to 19 are relevant to one question relating to this: is Gaelic-medium pupils' attainment in Gaelic affected by the proportion of school time spent learning through Gaelic? Of course, at the extreme this would almost certainly be the case;

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what we are interested in, however, is whether, within the range of teaching time found in Gaelic-medium streams in Scotland, there is any resultant variation in Gaelic attainment. Information on the proportion of teaching time conducted through the medium of Gaelic was matched to the pupil data in the SSA only for Primary 7.

Table 17
Teaching time through the medium of Gaelic in Gaelic-medium Primary 7
(Source: Survey of Schools, 2009)

Percentage of teaching time in Gaelic	As percentage of schools providing Gaelic-medium education		As percentage of Primary 7 pupils in Gaelic-medium education ³
	All ¹	In Gaelic Survey ²	
Less than 50%	8	6	4
50%	23	21	6
51%-69%	8	9	9
70%-79%	17	12	6
80%-89%	18	18	24
90%-100%	25	33	50
Total number	60	33	140

Notes:

¹ As collected from all schools providing Gaelic-medium education.

² In those schools providing Gaelic-medium education that appeared in the 2007 Survey of Gaelic Education.

³ In the Survey of Gaelic Education in 2007.

Table 18
Mean teaching time through the medium of Gaelic in Gaelic-medium primary (Primary 1 to Primary 7)
(Source: Survey of Schools, 2009)

School stage	Mean percentage provided by the average school ¹	Mean percentage experienced by the average Gaelic-medium pupil ²
Primary 1	97	97
Primary 2	97	98
Primary 3	92	92
Primary 4	86	84
Primary 5	84	82
Primary 6	78	73
Primary 7	75	67
Total number	30	1318

Notes:

¹ The unweighted mean of the percentages across schools.

² The mean of the percentages across schools weighted by the number of Primary 7 pupils.

Table 17 (final column) shows that although one half of Primary 7 pupils had 90% or more of their teaching through the medium of Gaelic, four in ten had from 89% to 51%, and one in ten had 50% or less. This reflects a general tendency across the

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curriculum for the amount of Gaelic to decrease through the primary-school stages, as permitted in the 5-14 Guidelines (see Section 1.1 above). Table 18 shows that, whereas in Primaries 1 to 3 almost all teaching time is in Gaelic in Gaelic-medium education, by Primary 7 this has fallen to just 67%, as experienced by the average pupil. When the index of teaching time through the medium of Gaelic at the Primary 7 stage in Table 17 was put into a statistical model of attainment of level D in Gaelic reading or writing in Primary 7, there was no association between Gaelic-medium teaching time and attainment in Gaelic. That is, on the whole, attainment in Gaelic in Primary 7 is not affected by the kind of variation in school language model that is shown in Table 17.

A further point may be made about the use of Gaelic in teaching, as shown in Table 19. The Scottish Survey of Achievement and the Survey of Gaelic Education asked four questions in the teacher questionnaire about the extent to which Gaelic was used in science lessons. Although only 32 schools in the survey were among the 44 known to Bòrd na Gàidhlig to be providing science through the medium of Gaelic, in a further 32 schools at least one teacher said that some science lessons were provided using Gaelic. This suggests that there is more Gaelic being used during science lessons than is officially recognised, and that the recommendation of the guidelines on Gaelic-medium education (as summarised in Section 1.1 above) that Gaelic should be the normal language across the curriculum may be closer to what is actually happening than might be inferred from there being only at most 44 schools (out of 61) that are officially known to teach science through the medium of Gaelic. However, we cannot infer from the survey data whether the additional Gaelic is being used in Gaelic-medium streams. Further data would have to be gathered to cast light on this.

Table 19
Schools with teachers who answered the Gaelic questions in survey (Primary 5 and Primary 7 combined)
(Sources: Scottish Survey of Achievement, 2007, and Survey of Gaelic Education, 2007)

Proportion of teachers answering Gaelic questions	Schools with no Gaelic-medium pupils in survey Number of schools	Schools with Gaelic-medium pupils in survey Number of schools
None	707	1
20%-49%	17	0
50%-67% ¹	15	9
All	0	22
Total number of schools	739	32

Note:

¹ *There were no schools in which the percentage lay between 67 and 99.*

The final analysis is to compare the attainment in Gaelic and English of Gaelic-medium pupils. We noted from Table 8 that, in Primary 7, there is some evidence that, on average, Gaelic-medium pupils had lower attainment in Gaelic than in English, especially at the highest level of potential attainment in reading. However, that comparison is of the Gaelic-medium-pupil group as a whole, and does not tell us whether, for individual pupils, their English attainment tends to be higher than their Gaelic attainment. This may be investigated formally by a further elaboration of the

multilevel models. A third level is introduced below those of the school and the pupil, recording Gaelic and English reading (or Gaelic and English writing) as the new lowest level, and retaining pupils and schools as the levels above that. Such an approach shows that there is indeed evidence that Gaelic-medium pupils' English attainment tends to be higher than their Gaelic attainment, particularly for reading at the highest level (E).

3.6 Interview comments on attainment

Some light is cast on the statistical results by comments made in the interviews. We remind the reader (as explained in Section 2.2.3) that the order in which the interview themes are presented is analytical, and does not imply anything about the relative importance that the respondents would attach to the different themes.

Several respondents believed that Gaelic-medium pupils generally had higher attainment across the curriculum than English-medium pupils. One secondary headteacher in a Gaelic-speaking area said that 'attainment is slightly higher if you are going through Gaelic medium than if you've not been through Gaelic medium', and another (also from a Gaelic-speaking area) said that 'when I look at the kids in Gaelic medium, they do a lot better.' The parent of a pupil taking Gàidhlig for fluent speakers at a secondary school in an urban area of Lowland Scotland reported that 'his English is also very, very good; that's one of his strengths. It [having studied through the medium of Gaelic] probably carries over to all language work I suspect', and the parent of a pupil in Gaelic medium at a primary school in a Gaelic-speaking area noted of pupils in Gaelic medium in general that 'I think their attainment is better than their peers in the English unit'.

Respondents offered four explanations for this belief that learning Gaelic had a direct effect on attainment. The first was that learning an extra language and studying other subjects through it provided a stimulating challenge to pupils. The headteacher of a primary school in an urban area of Lowland Scotland with a Gaelic stream put it thus:

I think cognitively it's quite a challenging but motivating experience for children. ... [W]ithin our primary setting our [Gaelic-medium] children are encouraged to perform, to talk, to communicate from very early on. They are challenged from Primary 1 to complete tasks in this other language and respond in this other language. And that can only be ... an enhancement of their brains' development.

A secondary-school headteacher in a part of the Highlands and Islands with little Gaelic in the local community said that 'I have always believed that the fact that they are bilingual makes them ... more ... open to learning because they are so ... used to it.' Such a view was expanded upon by the parent of a pupil taking Gàidhlig at an urban Lowland secondary, who, when explaining what they perceived the benefits of their child's having been in Gaelic-medium were, said:

I would say to some extent just a general sort of ... curiosity perhaps; I would like to think that having learned another language from early on has made them more aware of other ways of thinking about things, asking questions perhaps.

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A Local-Authority adviser in a Gaelic-speaking area noted the advantages in having multiple perspectives on the world:

Gu bheil iad ag ionnsachadh sgilean ùra is ag ionnsachadh ann an cànan ùr is gu bheil sin a' leantainn suas, tha mi a' creidsinn, bho sgoiltean àraich agus eile, is gu bheil na sgilean sin gan seasamh nuair a tha iad a' dol tro fhoghlam suas don t-siathamh bliadhna, gu bheil e a' fosgladh an inntinn gu beachdan ùra is dòighean ionnsachaidh ùra is dà shùil air, dà shealladh air an t-saoghal is mar sin.

[That they are learning new skills and learning in a new language and this continues, I think, from the nursery onwards, and that those skills support them when they go through education all the way to Secondary 6, that it opens their minds to new ideas and new ways of learning and [gives them] two views, two perspectives on the world and so on.]

An expansion of the explanation of higher attainment in terms of providing a stimulating challenge for pupils was often that learning through the medium of Gaelic strengthened pupils' metalinguistic awareness; this was the second explanation that was offered for the belief that learning Gaelic had a direct effect on attainment. A parent, who did not herself speak Gaelic and to whom therefore her son had to explain Gaelic words, said this of her child who attends a Gaelic-medium primary school in an urban Lowland area:

It's also made him work out that words aren't just labels, they actually have meaning, and he has got to be able to express that meaning in a different way. So I think even within the Gaelic, or within English, a word he knows in English he knows that he has to be able to explain it in ten different ways till somebody gets it. So I think they learn to learn in a different way.

The headteacher of a primary school with a Gaelic stream in a Gaelic-speaking area believed that the pupils were stimulated into thinking about language by their having to undertake

additional effort, additional understanding, additional manipulation of their thought processes. They are grappling with a new language and they have a lot of learning to do. And they have a lot of analysing to do.

These first two explanations were sometimes offered in conjunction with a third, the belief – often culled from reading research literature, such as the popular book by Baker (2007) – that being bilingual stimulated the brain in new ways. The parent of a child taking Gàidhlig at secondary said that 'we looked into it and all the evidence showed that children that went through Gaelic-medium education did well with another language, and they developed their brains to their full potential.' Another parent of a pupil taking Gàidhlig at secondary school (in an urban Lowland area) quoted a 'study that showed the development of the brain was actually enhanced by the fact that you had the bilingualism.' A third parent of a pupil taking Gàidhlig at secondary school (in a Gaelic-speaking area) speculated that learning through Gaelic was stimulating because it used 'different parts of your brain.'

The fourth explanation of a perceived general educational benefit of Gaelic-medium education was that learning Gaelic extends pupils' expressiveness and

aesthetic awareness. One parent of a pupil taking Gàidhlig at an urban Lowland secondary, commenting that her daughter did not read a lot, nevertheless said that ‘she has a good vocabulary’ in English. ‘She’s very expressive. And I do think that has come from [knowing Gaelic]; it certainly hasn’t come from this kind of standard route of reading.’ Another parent of a secondary pupil taking Gàidhlig at a different urban Lowland secondary said that ‘it gives them more experience, I think, ... particularly ... in the poetry and things like that ... for their English. You know, they’re speaking, speaking out.’ This cultural and wider social benefit of learning through the medium of Gaelic was noted by a Local-Authority adviser in an area with much community Gaelic:

Tha e a’ toirt cothrom dhaibh obair nas fharsainghe taobh a-muigh a’ churriculium, co-dhiù, ’s e deasbad a th’ ann no Mòdan is cothroman cultarach a th’ aca ann a sheo nach eil ann am foghlam tro mheadhan na Beurla. Tha e a’ toirt misneachd dhaibh agus tha e gan deisealachadh airson sgilean beatha agus san oilthigh is rudan mar sin.

[It gives them an opportunity for broader work outside the curriculum, whether it be a debate or Mòds or cultural opportunities here that aren’t available in English-medium education. It gives them confidence and prepares them for life skills and university and so on.]

These four explanations were each based on a belief that Gaelic-medium education had a direct effect on pupils’ attainment. Two other explanations related to the social context in which Gaelic-medium education takes place and suggest a potential indirect effect of such circumstances on attainment. One referred to the ethos of Gaelic education. The headteacher of a secondary school that teaches Gàidhlig in a part of the Highlands and Islands with little Gaelic in the local community commented that ‘I think our Gaelic-medium kids ... probably do have a closer peer grouping among themselves. And I think there is maybe an ethos that’s ... more distinctive and might be more positive.’

The most common social explanation for maximising pupils’ potential for attainment, however, was in terms of the characteristics of the parents who chose to send their children to Gaelic-medium education; the interpretation most commonly offered by respondents was that the perceived higher attainment among Gaelic-medium pupils was due to the parents not to the school. Some respondents put this in terms of general cultural capital. One headteacher of a primary school with a Gaelic stream in an urban Lowland area described the pupils that the school used to have in Gaelic medium:

children who came from homes where there was a lot of written material, a lot of stimulation, intelligent conversation about all kinds of things. A lot of our children came from academic backgrounds.

This respondent said that the pupil group was now more mixed. Nevertheless, the fact of having chosen a distinctive type of education remains itself an indication of parental involvement. The headteacher of a secondary school that teaches Gàidhlig in a Gaelic-speaking area was of the same view as that primary headteacher, explaining the higher attainment among Gaelic-medium pupils by the characteristics of their families: ‘when ... you look at the parental background, they are very supportive.’ A

parent of a child in primary Gaelic medium in an urban Lowland area said that high attainment came from parental commitment:

it would be worthwhile ... doing surveys that measure parental input, actually ask people how much did you spend with your child doing their homework last night. ... I mean I have got a friend who is a single parent, she earns ... nothing and has done ever since ever ..., but she can put a huge amount of time into her son, and he will achieve hugely because of it. I mean he started off, he is bright enough you know, but ... you can put in without actually having to have an income.

Often, however, this kind of social explanation for pupils' attainment is indeed expressed in terms of relative parental income and of social class. A Local-Authority adviser in Gaelic in an urban Lowland area said of pupils in Gaelic medium that 'they tend to be [of] middle class parents' who 'definitely feel that the development of balanced bilingualism promotes cognitive development.' A similar point was made by the adviser in another urban Lowland area. The headteacher of a primary school with a Gaelic stream in the urban Lowlands believed that 'you have parents who because of the nature of our Gaelic classes tend to be more middle class, tend to be ... very sort of creative and expressive.' The parent of a pupil in primary Gaelic medium (also in the urban Lowlands) summed up this social explanation:

[standards are] always consistently high in Gaelic-medium school, because the people that are making decisions ... are normally kind of pushy kind of fairly liberal middle class parents like me, who have children who attain highly, but it doesn't mean *because* they are Gaelic medium that they are attaining highly.

Despite all this discussion of high attainment by Gaelic-medium pupils, there was also recognition that there might be disadvantages to Gaelic-medium education. It was rare to find outright scepticism, although one parent in a Gaelic-speaking area who had chosen not to send her primary-aged child to Gaelic medium thought it was 'silly' to study subjects such as 'maths ... or geography or whatever' through Gaelic. More widespread was the view that Gaelic-medium education may be particularly challenging for second-language pupils for whom Gaelic-medium education is immersion education. The headteacher of a primary school with a Gaelic stream in the urban Lowlands had observed that at 'the Primary 3 stage, they can't translate.' The parent of a child in primary Gaelic medium in the urban Lowlands noted that

[immersion Gaelic-medium] children do suffer especially for the first maybe two or three years. Because ... the ... school sends homework home every night. [The] kids at that age, at four and five they can't do it. Some are obviously fluent speakers at five. But when you've got a child who maybe can just say his colours then there's a huge difference there.

However, there was also recognition that this phase of particular challenge for Gaelic-medium pupils was temporary. A parent of three children who had all gone through primary Gaelic medium in an area of the Highlands and Islands where there is little community Gaelic said:

I mean at times it's hard, and I do find the Primary 4 stage, when my eldest was that age I thought, oh my God, their English reading is horrendous. And then just all of a sudden it just comes and they are reading two languages, and they are away

tearing ahead, ... and it's all three of mine have been exactly the same, but that's because in the Gaelic medium you are immersed for the first three years completely, and then they only start learning English grammar in Primary 4. So ... the only time I had a bit of kind of doubt was with my eldest in Primary 4 and, as I say, over that summer holiday he started reading and he just seemed to get it really quickly. And they were all the same, you know.

One area of difficulty for Gaelic-medium pupils was believed to be the challenge of technical vocabulary in Gaelic. The parent of a child in primary Gaelic medium believed Gaelic scientific vocabulary to be 'horrific', even though she was very positive about her daughter's experience of Gaelic-medium education and was enthusiastically committed to keeping Gaelic alive. This parent lived in the urban Lowlands and classed herself as a 'Gaelic learner'. The headteacher of the school which this child attended believed that

the only subject that can be difficult is science, and that's because of the terminology. It gets very complicated, especially after ... Primary 4; things can become too complicated, so a large part of science is done in English a lot of the time.

A pupil explained a preference for using English in science by noting that, at primary-school level, many of the concepts are already familiar in English: 'it's easier to understand ... what carbon dioxide is in English ... than it is ... in Gaelic because you'd just be learning all these things again.'

Nevertheless, many parents did find that the apprehension about scientific vocabulary was allayed by the school's support. One parent of a secondary-school pupil (in a Gaelic-speaking area) said that she had been concerned about technical terms, but that in practice there had not been a problem. A parent of a pupil in Gaelic-medium primary in the urban Lowlands noted that much of the terminology of science would be international anyway:

ideally Gaelic should be used when it's appropriate. So yes, I don't think there's really any subject that you couldn't do in Gaelic. Even when it comes to Physics and Chemistry and ... Biology. ... These are international ones, and so there doesn't need to be a Gaelic equivalent. But the teacher should be speaking Gaelic then.

A Local-Authority adviser in a Gaelic-speaking area believed that the difficulties were exaggerated by adults, and that pupils were much less concerned with them:

Agus a tha mi a' smaoinichadh a thaobh saidheans is matamataig ... nach eil an duilgheadas againn le clann ach le luchd-teagaisg. ... Tha mi a' smaoinichadh gur e ceist misneachd a th' ann agus fàs eòlach air a' chànan. Tha e a' tighinn cho nàdarra dhan a' chloinn ach chan eil chun na pàrantan agus tha mi a' smaoinichadh gu bheil teagamh aig pàrantan cuideachd mu dheidhinn cànan. ... Tha a' chlann, fiù 's even ann am prìomh a h-aon is a dhà a' cleachdadh nam faclan, faclan a tha rudeigin coimheach dhuinne. ... Ma dh'ionnsaicheas tu òg iad tha iad cofhurtail leis agus is e an obair a th' ann, tha mi a' smaoinichadh, gur e CPD do luchd-teagaisg.

[And I think in relation to science and maths ... that our problem is not with the children but with the teachers. ... I think it's a matter of confidence and getting used to the language. It comes so naturally to the children but not to the parents and I think parents are also uneasy in relation to language ... The children, even in Primary 1 and 2, use these words, words that are a bit strange to us. ... If you teach them young, they're comfortable with them, and the task is, I think, CPD for teachers.]

The other set of comments regarding difficulties in learning bilingually that was noted was the obverse of the extra progress made across the curriculum by Gaelic-medium pupils: it was the sense that their Gaelic attainment itself fell behind their English accomplishments; this was commented upon by pupils, parents and teachers. Several pupils noted that their English was better than their Gaelic (just as we have seen in the statistics for Primary 7). Pupils gave various reasons for this. One said that it was because 'I speak more English than Gaelic, and I understand it more', a second that 'at home I'm talking in English', another that this was because 'I have been doing English longer', and a fourth that although 'my nursery, primary and my secondary was all Gaelic [I'm] still better at my English because ... my first language is obviously English'. One pupil commented that English writing is easier than Gaelic: 'in English you don't really need to put graves on anything so English is easier than Gaelic.' Comments on these same points about a lack of opportunity to use Gaelic outside the school were also made in written responses to our questionnaire survey of primary schools. One (from a school in an area of the Highlands and Islands where there is little Gaelic) noted the 'lack of Gaelic in the community' and another (from a school in the urban Lowlands) that 'children are not supported in the home with Gaelic in the same way they can be supported in English as many parents are non-Gaelic speakers'. A further respondent to the questionnaire survey (from a school in an area of the Highlands and Islands where there remains some community Gaelic) conveyed the sense of struggling against a tide of English: 'we are trying to keep the teaching through the medium of Gaelic going because we know that they get lots of English in the High School and outside of school.' A respondent to the questionnaire survey from a secondary school in an area of the Highlands and Islands where there is little Gaelic similarly said that

there isn't usually home support for Gaelic pupils who come from homes where there isn't Gaelic. There isn't support for them from the community – regular/consistent Gaelic clubs.

Another secondary teacher (from an area of the Highlands and Islands with little community Gaelic) believed that pupils' attainment in Gaelic suffered because of the lack of truly Gaelic-medium options at secondary; the respondent perceived that there is

a degeneration in all skills due to lack of contact with [a] Gaelic environment, within and outwith school, leading to less usage of Gaelic, particularly amongst lower ability pupils.

A secondary headteacher, from a Gaelic-speaking area, noted the effects of the switch from Gaelic's being the language of everyday communication at primary school to its being a subject of academic study at the secondary-school stage:

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lack of contact with the language [at secondary school] means that pupil fluency falls in Secondary 1 and Secondary 2, but then picks up again in Secondary 3. Going from all-day, everyday in primary to two periods per week, pupils cannot be expected to achieve the same levels in Gàidhlig as English in secondary.

One parent of a secondary pupil taking Gàidhlig (in an area of the Highlands and Islands with little community Gaelic) thought in general that the greater strength of pupils' English might be because the general linguistic environment was English, noting that 'there's nothing in Gaelic that he can read that's interesting for him'.

4. Results: choice, provision and purpose of Gaelic-medium and Gaelic-language education

4.1 Influences on decisions

4.1.1 Heritage

The first set of reasons which people gave for the choice of Gaelic-medium education related to a sense that Gaelic was part of their heritage. This had four distinct versions – family heritage, general cultural heritage, heritage of the Highland and Islands, and Scottish heritage. In all of these there was a commitment to maintaining the heritage, and this sometimes was expressed more explicitly as a commitment to keeping the language itself in a healthy state; so language revitalisation is a fifth theme under this heading. As noted in Section 2.2.3, the order in which we present these themes is analytical, and our research design does not allow us to assess the relative importance of them across the whole sample of parents.

4.1.1.1 Family heritage

The most common of these heritage reasons was that some people in the family, or in its previous generations, were Gaelic speakers. The purpose of placing the child in Gaelic-medium education was then to try to maintain a tradition or, more commonly, to try to recover a lost legacy.

The parent of a child in a Gaelic-medium primary stream in a part of the Highlands and Islands with little community Gaelic explained it in this way:

my grandparents ... were native speakers and both lost it. We just felt it was a shame that we hadn't learnt it, that my father hadn't learnt it and then I hadn't learnt it, and I just thought [of] all these people that lost the chance.

In the Lowlands, a family connection with the Highlands was often a motive for choosing Gaelic medium, and indeed enabled one parent to re-connect with what she perceives to be her own family roots:

we had missed it through my generation but my parents were both Gaelic speakers. So it seemed a really wonderful opportunity to gain [Gaelic]. ... I didn't realise that this would happen when my girls went to school, Gaelic-medium school, but I realise[d] how cut off from my culture I was.

Such a sentiment of re-connecting with Gaelic family roots was found even in areas in which Gaelic is widely spoken, for example in this parental comment which conveys a sense that previous generations had neglected a valuable cultural resource:

both my parents were Gaelic speakers, but they never taught us Gaelic, they speak it amongst themselves, but not to us. So I was kind of brought up as a learner, a Gaelic learner ... [and] so I just really wanted my children to be able to speak Gaelic and just kind of keep up another language.

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A family-tradition rationale was also found where one parent did speak Gaelic, such as in the comment from a parent in an area with some persisting community Gaelic: ‘I just wanted her to have Gaelic because it was my first language, ... and I really just didn’t want the language to die out in my family.’

Some pupils also felt themselves to be maintaining a family tradition. One Gaelic-medium pupil explains:

my dad’s family all knows Gaelic except my dad and his brothers and sisters because their mum and dad didn’t teach them Gaelic. ... We’re the only people from them that know Gaelic in our family now ... so my dad wanted the family to still have Gaelic in it, that’s why we go to this school.

4.1.1.2 General cultural heritage

The second version of Gaelic as heritage was an allegiance to the locality, a sense that Gaelic medium was maintaining a community tradition. A parent in a Gaelic-speaking community in the Highlands and Islands explained the decision to put her daughter into Gaelic-medium education in this way:

we were in a community where a lot of people spoke Gaelic, it was spoken in the shops and at church, and the Sunday school that she went to was all Gaelic; ... she was hearing it all the time.

A parent who had moved out of the Gaelic-speaking areas wanted her children to be fluent in case they moved back there:

Bha sinn a’ fuireach ann a[m baile mòr air tìr-mòr na Gàidhealtachd] aig an àm a bha [mo nighean] an dùil tòiseachadh anns an sgoil agus ged a bha sin a’ fuireach ann a[m baile mòr air tìr-mòr na Gàidhealtachd], bha beachd agam is dòcha aon latha gum biodh sinn air ais anns na h-eileanan. Ach on a rugadh [mo nighean], bha mi airson gum biodh a’ Ghàidhlig aice. Ged a bha sinn a’ fuireach air tìr-mòr, ged a bha sin am measg Gall fad na tìde, bha mi a’ faicinn am buannachd a bha gu bhith ann i a bhith dà-chànanach.

[We were living in [Highland town] at the time that [my daughter] was about to start school and although we were living in [Highland town], I thought we might return to the islands one day. But from the day [my daughter] was born, I wanted her to have Gaelic. Even though we were on the mainland, even though we were among non-Gaels all the time, I could see the benefit there would be in her being bilingual.]

The headteacher of the secondary school to which this pupil went believed that this reasoning by parents was widespread, saying that ‘in an area like this the cultural background is very important’ in explaining choice of Gaelic-medium education. Another parent – now living in the Lowlands – perceives that Gaelic-medium education enables her daughter to continue to be part of a Gaelic community:

[she] would be much more part of the community that we were living in because it’s predominantly Gaelic speaking, we were living up ... in the Isle of Lewis which is kind of Gaelic heartland.

4.1.1.3 Heritage of the Highland and Islands

Commitment to a locality merged readily into a wider allegiance to a Gaelic or even Celtic identity, sometimes expressed as a loyalty to the Highlands and Islands. The headteacher just quoted went on to say:

for a small minority it's the Gaelic culture. But I think for more of them it's the actual Highland, Scottish, the Celtic identity. And it's tied up with music and drama. And just the renaissance ... of the whole cultural side of it.

The parent of a primary-school pupil in a strongly Gaelic-speaking area said that 'I was also very interested in the Gaelic language myself, and I started learning a bit myself, and just on the sort of connections with the culture and the Highlands.' Another parent from the same area thought that being fluent in Gaelic would help her child to become interested in Highland culture:

If she ever wanted to research anything or find out more, sort of having the ability to speak and understand Gaelic ... would [give her] a better understanding of ... her history as well.

Loyalty to Gaelic culture was also found as a reason for choosing Gaelic medium in the Lowlands. A parent in an urban Lowland area explained the reason why her husband was so keen on Gaelic medium: 'I think he is just very fond of the island culture, and Scottish culture and all of that'.

A Highland allegiance was expressed by some pupils, usually associating this with family connections:

my gran is from the Highlands ... so ... it's maybe quite important to keep my family talking Gaelic because I think my dad doesn't really and my cousins don't really.

One pupil associated the history and culture of his area with the Gaelic language: 'if you are going back into [my island] and all the Gaelic heritage it would actually be quite good to do in Gaelic.' Some pupils identified Gaelic culture as being part of a broader Celtic culture: learning it was good, one said, 'because we got to learn the Celtic language.'

4.1.1.4 Scottish heritage

As some of these quotations also show, Highland loyalty can merge into a wider allegiance to Scotland. As the headteacher of a primary school in the Lowlands said in explanation of why parents choose Gaelic medium, they 'have a particular interest in Scotland, in the history and heritage and things like that'. Another Lowland primary headteacher put it thus, after mentioning parents who 'who want to continue [a] family background with their children':

You then get parents who likewise are very, very motivated by the national identity type thing, but perhaps are not Gaelic speakers but may have links through music or art or things like that as well. They want to instil that culture in their children and be part of that and share that with them, ... and see that as an opportunity to

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help their children learn, but also to help them learn and become part of that identity.

For some parents, choosing Gaelic medium was part of a wider quest for identity:

I was always quite patriotic, ... and I liked the idea when I realised [we] had our own Scottish language and culture. Living in [urban Lowland town], you didn't hear about it, you know. And it was actually a friend's grandad who spoke the Gaelic, and that just totally intrigued me. And then I ... started hillwalking and things, and then one of my aunties, she married a Gael, who actually lived on the Isle of Barra. And so I started going up there when I was about 17, and I just decided, if I ever had children, ... they would be learning their language, you know. And then, when I married, ... I discovered a Gaelic playgroup, which was quite shocking [laughs] in, you know, [urban Lowland town].

Some families who had moved to Scotland from England chose Gaelic medium because they were fascinated by the culture, as explained in this quotation from a parent in an urban Lowland area:

Obviously lots of things ... about Scottish culture go along with the Gaelic-medium education. So there was loads of Scottish music and singing and I liked all that side of it as well.

Another parent said something similar:

Well you can probably tell I am not from Scotland originally, but ... my parents were Scottish and my wife is Scottish, and we are very proud of our nationality and we see Gaelic and Gaelic culture as part of that, and we want to have our children have a part of that.

The same sentiment of Gaelic-medium education facilitating access to a national Scottish identity might extend to incomers from outside Britain, according to a parent of a child who is not in Gaelic medium, speaking about its role in her strongly Gaelic-speaking community:

a lot of the incomers, the English, the Polish and that ... they want to pick up the Gaelic because they think it will benefit them for getting jobs [locally] and they are better integrated if they have a little bit of Gaelic behind them. So I think you'll find that a lot of these Gaelic-medium classes are actually English and foreign people that are in them.

Some pupils expressed this wider Scottish attachment:

Well [Gaelic]'s Scottish and I like, I love my country of course. And I think it's just really good for knowing who I am and I'm part of Scotland and it's my natural, well Gaelic, Scottish language.

Another referred to Gaelic as 'our basic language', and said this meant both the language of the pupils at the school and also the language of Scotland. Commitment to Gaelic was associated by some pupils with Scotland's past: 'I think it's good to know Scotland's old language.' Others invoked a Scottish allegiance to support

language maintenance: ‘it’s a good thing knowing Scotland’s language. ... And it should be kept on.’

4.1.1.5 Gaelic revitalisation

Running through all such comments is a commitment to the health of Gaelic, but this was sometimes expressed explicitly as well. As one parent of a Lowland pupil said: ‘I believe that the Gaelic language needs to survive; for it to survive it needs a new generation of speakers.’ Others hoped for the ‘regeneration of the Gaelic language’ (another Lowland respondent), and a few associated the situation of Gaelic with minority languages elsewhere, such as in this comment from a further urban Lowland parent:

I believe that ... in all societies ... the indigenous language shouldn’t be ... overtaken by the nation’s language. Whether it’s American Indians or Chinese or India or what have you. So the same thing obviously applies at home.

A parent who is a native Gaelic speaker, but now living in an area of the Highlands and Islands that has little community Gaelic, said that educational choices had focused her mind on the future of the language:

Chan eil thu a’ coimhead a-staigh ann am foghlam gus a bheil an leanabh agad a’ tighinn faisg air aois na sgoile agus nuair a thòisich mi coimhead a-staigh ann, bha mi a’ faicinn gu robh buannachdan gu bhith ann co-dhiù, eil fhios agad, a thaobh cultar ’s an cànan. Agus cuideachd airson an cànan a chumail beò. Agus sin dìreach mar a ràinig sinn an co-dhùnadh. Chanainn gu robh mise na bu làidire air a shon na bha an duine agam.

[You don’t look into education until your child is coming near school age and when I started to look into it, I could see that there would be advantages at any rate, you know, with regard to culture and the language. And also to keep the language alive. And that’s just how we reached the decision. I’d say that I was more strongly in favour of it than my husband was.]

Accompanying support for Gaelic revitalisation was often a belief that Gaelic had ways of seeing and representing the world that were valuable and unique, such as by a respondent in an area of the Highlands and Islands where there is little community Gaelic:

there’s so many ways of communicating in Gaelic that we can’t do in English. ... Because there’s so much attached to the land. So much attached to the sea. The way people react. The way people talk and relate to each other. ... That has been buried somewhere in that language. ... It’s a community language. It’s not an individual language: ... a lot of these words are tied to behaviours and activities and shared working.

This person is not himself a Gaelic speaker, but he grew up in a strongly Gaelic-speaking area, and his wife, his three children, his parents and his wife’s parents all speak the language.

Another parent, from a Gaelic-speaking area, believed that

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You know you hear somebody kidding on ... they're telling a Gaelic joke and then you translate it to my mother [who doesn't speak Gaelic] and she's like 'what are you laughing at?' You know you can translate an English word to a Gaelic word but ... when you're getting a funny story or a ... story about ... the life of somebody and what they've suffered and endured, it doesn't come across the same in English.

A few parents took their commitment to language revitalisation as far as learning the language themselves, often encouraged by a wish to help their child to learn, such as from this parent in a Gaelic-speaking community:

as a parent ... I've gained a lot in confidence about having children in Gaelic medium, also I've since learned Gaelic which has made an enormous difference.

Commitment to language revitalisation was also expressed by some pupils. One pupil said that she wanted to continue with Gaelic in secondary school in order to 'keep our Celtic connections alive' because 'there's not very many people ... now that speak Gaelic like there was a wee while ago and Gaelic was our national language'. Another said that

it's a good thing knowing Scotland's language ... and it should be kept on. ... I think it's special, a special language ... I think everybody should ... do Gaelic.

4.1.2 Bilingualism

The second main set of reasons that people gave for the choice of Gaelic-medium education was the perceived benefits of a child's growing up bilingual. The most prominent version of this was a belief in the general cognitive benefits of being bilingual, often based on the respondent's having become familiar with relevant research. There were also beliefs that bilingualism made acquiring further languages easier, and that it made children more understanding of cultural diversity.

4.1.2.1 Cognitive benefits of bilingualism

Many of the headteachers noted the beliefs among parents about the cognitive benefits of bilingualism, and generally tended to share them. One secondary head of a school in a Gaelic-speaking area summed up parents' complex decision-making in this regard:

some of them have done the research and realise that children who learn two languages have ... an opportunity to develop their cognitive skills at an earlier age. And if they learn two languages at an early age it is easy for them to go in and learn more languages. So I think some parents have done the research on that. And it's not necessarily the Gaelic they are choosing; [it's the bilingualism].

Our evidence would confirm that many parents throughout Scotland had indeed been influenced by the research on bilingualism, and believed that their children's experience demonstrated its validity. One parent of a child in Gaelic medium in a Lowland urban area noted this:

it was really the study that showed the development of the brain was actually enhanced by the fact that you had the bilingualism, multilingualism, so it really

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didn't matter whether it was Maths or English or science or Geography or whatever, the [researchers] found a facility with that because the [learners] are already organising their brains through the use of two different languages. So I am seeing certainly they are doing a lot better I feel than they would have done perhaps if they had just been in English mainstream.

Another parent of a child in Gaelic medium in a Lowland urban area said:

I read up on it and what I read was very positive about the impact of being bilingual on children and their ability to learn. So I thought it was worth the effort. ... The thing that I read most was around Welsh ... the Welsh-medium education, and it was saying that children who learned in that environment were more likely to be better at Welsh, and also better at Maths and better at English and sciences and basically picking up additional languages.

The research cited by several respondents was that by Johnstone et al (1999) on Gaelic-medium education:

Stirling University had done some kind of research and a report into Gaelic-medium education and it seemed to me when I looked at it that children ... who had gone through Gaelic-medium education certainly didn't do any worse than the children who were in mainstream. And in a lot of cases and even in their English language ... they did better. So really for that reason I decided, we decided to put her there and see how she would get on.

A parent of a child in Gaelic medium in a strongly Gaelic-speaking area of the Highlands and Islands said:

I think it does develop their language centres, ... encourage[s] ... the brain to develop in all sorts of ways too. ... I think it's very good for them and I would be very much in favour of encouraging folk to give it a go, and any other language too, as I say, if you weren't in the Gaelic culture, you know, to possibly go on to do something else, another language.

Pupils would have been unlikely to have been aware of research on bilingualism, but one did say that being in Gaelic medium 'keeps you a bit smarter than other people because you're learning ... another language.'

This whole line of argument about the lasting value of cognitive stimulation was summed up graphically by one respondent, a parent of a child in Gaelic medium in an urban Lowland school:

[Gaelic] is [what] I would call a difficult language and I thought if they could master that – I think children as a rule are like wee sponges, and they just sook [suck] it all in, and it would hopefully open up a lot of gates later on making other languages easier for them.

4.1.2.2 Bilingualism and acquiring further languages

As some of these quotations already show, one specific benefit of growing up as a bilingual was thought to be a greater capacity to learn subsequent languages later;

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there was thus in some such cases little interest in Gaelic specifically, and Gaelic medium was chosen because it was the only medium of education on offer that was not English. One headteacher in a Lowland primary school said that parents would say 'I'm not really worried what language it is, it will develop my child's education and give them a better handle on the third or fourth language.' Another primary headteacher, of a school in a strongly Gaelic-speaking area, had noticed such benefits in relation to the acquisition of subsequent languages:

I think parents agree too that ... study[ing] the mechanics of a language ... does give children skills that they can transfer. And [that's] been our experience and my personal experience; I did French with older children in the school including Gaelic medium. ... They have a facility for picking up another language having studied one.

A parent in an area of the Highlands and Islands where there is little Gaelic in the community confirmed that it was specifically linguistic advantages that had attracted the family to Gaelic medium:

I think it's good for children to learn another language when they are very young. ... I think it helps you to learn a third language.

Similar comments about the benefits of formal Gaelic-medium education were made even in areas where children might have picked up Gaelic in the family or community. One parent in such an area said that Gaelic medium had been chosen in order 'to have ... more options for jobs when she leaves school and maybe also the ability to learn other languages as well.' Another said, explaining her daughter's speed of picking up French at secondary school, that 'it's a hunch, I mean I can't prove that there's anything, [but] she would possibly agree herself that it might be because she has sort of already got a second language.'

Some pupils spontaneously mentioned the advantages of knowing Gaelic for learning a further language. One said:

Interviewer: How do you feel about learning French?

Respondent: It's easier because I have learnt Gaelic.

Another said that having learnt Gaelic 'helped me learn French better because I've been used to learning a different language.' A third Gaelic-medium pupil, who had started to learn German in upper primary after having been in Gaelic medium, put it very eloquently and thoughtfully:

if you learn Gaelic and stuff like that I find that it's a lot easier to learn other languages. Because, you know, you already understand, you have to pronounce things differently and stuff like that. Because like the 'ch' noise is in German quite a lot. But if I didn't do Gaelic I might not be able to do that.

There was no hint from any respondent of any cynicism in the claims made about the benefits of bilingualism – no sense at all that this might have been offered as a vaguely scientific veneer to a decision taken for other reasons. It is of course impossible to prove that other motives were not present even though unspoken, but there was plenty of evidence that respondents were citing reflections upon

bilingualism in a thoughtful rather than tokenistic way. This may be inferred from the explicit references to previous research (such as that by Johnstone et al (1999), or on Wales) or to various local public lectures given by researchers from various Scottish universities. Thinking about bilingualism was also evident in parents' and headteachers' observations on children's metalinguistic awareness, neatly summed up by a parent of a child in Gaelic medium, when considering her son's reaction to quite different linguistic situations on holiday in Spain: as a result of being in Gaelic medium, she thought, he 'understand[s] a whole lot more about the concept of language'. Some respondents, indeed, explicitly denied that heritage was more important to them than bilingualism. In the words of one respondent, from a Gaelic-speaking area in the Highlands and Islands:

Gaelic is their heritage, my grandfather was the last Gaelic speaker in our family from [the island], so ... the heritage was there, but the important part was that they were learning another language at you know three and four.

4.1.3 General qualities of Gaelic-medium education

Parents were also attracted by various incidental features of Gaelic-medium education, in the sense of aspects of it that were not intrinsic to Gaelic or to learning through the medium of a Celtic language. The most notable concerned the size of classes and the reputation of the school in which the Gaelic-medium stream was located.

4.1.3.1 Class sizes

Several respondents reported that, at least in the past, an attraction of Gaelic-medium education for parents was that classes were smaller than the English-medium classes tended to be in the same or neighbouring schools. The headteacher of a secondary school in an area of the Highlands and Islands with a lot of community Gaelic said that parents believed that in Gaelic medium their children would be 'in smaller classes and [they believed that] that leads to better quality of education.' An adviser in a Lowland area said that 'some [parents] would like the idea of small classes for their kids.' The advantages of small classes were, however, conceived of as being independent of the medium of education. Thus a primary headteacher in a Gaelic-speaking area said that it was believed that 'children will get a lot of attention' in small groups, and a secondary headteacher in the Lowlands said that parents 'liked the idea of a fairly protected primary environment where the children were getting a lot of attention.'

Nevertheless, it was also believed that, as Gaelic-medium education has expanded, the small-class argument has become less cogent. A secondary headteacher in the Lowlands said of small classes that 'I think it certainly has been [a reason for choosing Gaelic medium] in the past. I think it's less so now.' A parent with a child in Gaelic medium in a Lowland primary had noted the change:

Other people have got their kids there because they thought they would get smaller class sizes. But that's neither here nor there anymore, that might have been ten years ago but not any more. Now the class sizes are just the same really.

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Another – also in a Lowland school – described the former attraction of Gaelic medium as being ‘a little bit like a little village primary school within a bigger school’, but added that ‘by the time [my son] was there there actually weren’t ... smaller class sizes’.

4.1.3.2 General reputation of the school

In several cases, the school which contained the Gaelic-medium stream had a general reputation as a good school, and it was as much this which attracted people as the language. One parent, whose child was in Gaelic medium in a Lowland area, recalled her thoughts:

where we live I wasn’t too impressed with the schools that were available. ... And on that basis, you know, because obviously [Gaelic]’s not the easiest option, I went along to see [the school with Gaelic-medium] and was really impressed with it.

Sometimes the attraction was an individual teacher as well as other features of the Gaelic-medium provision, as in this comment from a parent with a child in Gaelic medium in a Lowland primary:

None of it was particularly to do with the Gaelic language per se. It was more things about the facility. At that time as well there was one teacher who was absolutely brilliant who was very, very enthusiastic, very motivated.

One Local-Authority adviser, well aware of these parental considerations of quality, said that this had to be at the forefront of his thinking too:

Tha taic oifigeil a’ tighinn bho bhuidhnean agus ... tha mi a’ smaointinn gum bi pàrantan a’ smaointinn gum bi foghlam a tha a’ tachairt aig an sgoil gu math proifeiseanta agus gu math soirbheachail agus mur an robh sin ceart, tha mi a’ smaointinn nach biodh foghlam tro mheadhan na Gàidhlig a’ fàs.

[Official support is coming from [public] organisations and ... I think parents think that the education that’s available at the school is very professional and very successful and, if that wasn’t right, I don’t think Gaelic education would be growing.]

4.1.3.3 Gaelic medium provides opportunities beyond school

Gaelic medium was attractive also for what were believed to be the general opportunities that it offered to pupils outside school or once they had left school. Many of these were seen to be cultural, as in comments from one parent about her son’s opportunities in an area of the Highlands and Islands with some community Gaelic:

[he] has acted in two films, and he has been on TV, and you know they had a project at school whereby they wrote their own scripts and made their own films, and all these fantastic opportunities that they get. Because [the Gaelic community] is such a small community they got a higher chance of getting involved in these things. ... Also he does music, a small amount of music, he plays the chanter, his teacher isn’t a Gaelic speaker but its all very much tied in with the culture I think.

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There were also perceived to be employment opportunities for people who are fluent in Gaelic, as expressed, for example, by one pupil:

Interviewer: Why would you want to continue with your Gaelic do you think?

Respondent: Because it could get you more jobs when you're older – you could probably get on a Gaelic media or TV show because there's not a lot of Gaelic speakers.

The sense was strong of a Gaelic world, growing in confidence, being supplied by people who had passed through Gaelic-medium education. One parent in a Lowland urban area noted the attraction of

being part of that broader Gaelic world, and recognising that there is a Gaelic world. And a Gaelic world which is quite confident and as I say cool.

4.1.3.4 Children with learning difficulties

Some parents of children who had specific learning difficulties had been apprehensive about sending their child to Gaelic medium. One parent in a Lowland area who had read a lot about Welsh-medium education said that 'the only downside that seemed to be highlighted in all the stuff I read was that if a child had learning difficulties he would probably find it quite difficult to cope.' Others had found such concerns to be confirmed in practice, as another Lowland parent described: 'I don't think they had thought it through at the school, and there were two or three children with very severe dyslexia and I think it took quite a long time for them to get proper help because of the Gaelic thing.'

Nevertheless, others had experienced no problems. A parent of a dyslexic child in Gaelic medium in a Lowland school could not be more enthusiastic:

[the school] were fantastic about having the testing done, I have heard so many things about schools [making] it difficult ... when people want special help. They were not like that at all, they were fabulous, and they gave him support in both Gaelic and English. ... So that has been phenomenal support from the school.

4.1.4 Characteristics of parents

We saw earlier (Section 3.6) that some respondents attributed the high attainment of pupils in Gaelic medium to their having well-educated parents. There was also a general sense that such parents were more likely than others to choose Gaelic medium for their child. The most basic and perhaps obvious point was that taking such a decision for Gaelic medium was an indication that a parent was interested in education and committed to it. Joining a body of such people was then attractive to other parents, as one parent said who had chosen Gaelic medium in a Lowland urban school: 'the people who chose to send their children there were all people who think about education'.

More specifically, there was a perception that the parents of children in Gaelic medium tended to be well-educated. We quoted in Section 3.6 the headteacher of a

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Lowland school describing them as ‘very sort of creative and expressive, and children get that extra opportunity [to be creative and expressive too]; the [parents] go for it just for that experience as well.’ A Local-Authority adviser in a Lowland area noted that it was well-educated parents in particular who had sought out research on bilingual education and bilingualism.

Partly in consequence of this, there was often a belief that parents of Gaelic-medium pupils were ‘middle class’. Sometimes this seemed to be merely a different way of saying that they were well-educated. In the words of one primary headteacher in a Gaelic-speaking area: ‘there are professional parents who consider that it’s a very good start for their children to be involved in learning of that type [Gaelic-medium education]’. More commonly, the description of parents of Gaelic-medium pupils as middle class was vaguer. The headteacher of a secondary school in a Gaelic-speaking area said that ‘in some areas it can be quite a middle class thing to do’, but even in this comment the implication was not so much about social status as about a certain style of parenting: ‘they are very supportive, quite often middle class, parents’.

In any case, there was also a belief that this social distinction was less now than it used to be – that Gaelic medium was now attracting a broader social range. The same secondary headteacher (in a Gaelic-speaking area) noted that the demographic characteristics of parents of Gaelic-medium pupils were changing in such a manner, and a parent of a child in Gaelic medium in a Lowland primary school also described a much more diverse group:

- | | |
|-------------|---|
| Respondent | You have got the whole range ... |
| Interviewer | The whole range ... so it’s no longer, if it ever was, the domain of sort of, you know ... |
| Respondent: | I would say [this school] never had ... pushy parents. They probably had loud gabby parents, [but] I would say out of the [twelve] years [in which I have had children at the school] there have been [only] two that everybody would pick out as being the pushy parents that wanted the best for their children. The rest, we had our drug addict, we had looked-after and accommodated social work children, we had run-of-the-mill middle-of-the-road mums like myself. |

One particular change in parental characteristics that a Local-Authority adviser (from a Gaelic-speaking area) had noted was a decline over the years in the number of children in Gaelic medium coming from Gaelic-speaking homes:

Is dòcha gu bheil seanair no seanmhair na cloinne no cuideigin mar sin. Chan eil e mar a b’ àbhaist nuair a bha mi fhìn ann a[m baile sna h-eileanan]. A’ mhòr-chuid den chlann, bha aon phàrant aca co-dhiù aig an robh Gàidhlig ach chan eil an-diugh.

[Maybe the children’s grandfather or grandmother speak Gaelic or something like that. It’s not like it was when I was in [island village] myself. The majority of the children would have had at least one Gaelic-speaking parent but today they don’t.]

4.1.5 Prior decisions or context

4.1.5.1 Prior decisions

Some decisions to place a child in Gaelic medium were the consequence of a prior decision to send an older child there. The mother of several children who had all been in Gaelic medium in a Gaelic-speaking area described the decision to put her son into Gaelic medium in terms of that common family experience:

he went through the nursery, ... so all his friends were with him, and we were just keen that he would carry on because [my daughters] had done so well, and they have carried on and our older daughter did Advanced Higher Gàidhlig, as did my second daughter too. ... So it was very much part of the scene really with us, so we didn't really think twice with [my son] or his younger brother either.

On the whole, this kind of choice based on prior decisions raises no new issues for the analysis, because the reasons for the choice of Gaelic-medium education for the eldest child tended to be of the same kind as we have outlined above. Choosing Gaelic-medium education for subsequent children might be thought of as merely one way in which choice takes place in the context of previous choices.

Another instance of choice based on prior decisions is the inertia of carrying forward a choice for Gaelic-medium nursery into Gaelic-medium primary. One parent in a Gaelic-speaking area noted this:

probably for [my daughter] this just seems a natural progression, she had been in the cròileagan so it wasn't like being immersed into something ... [she] didn't have any experience of [anything different].

4.1.5.2 Context

There were two main ways in which context influenced choice. One was where a parent had heard about Gaelic medium through local social networks. The headteacher of a Lowland primary noted that

you have parents who are maybe swayed by other parents who want to be part of that group, which is a neighbourhood type thing rather than anything else.

A parent of a child in a Lowland primary had put her first child into English-medium education because of doubts about her ability to support her child in Gaelic medium. However, these doubts were quelled by others' experience and she chose Gaelic-medium education for her second and third children:

I was quite taken by the thought of the Gaelic, but then I panicked at the last minute because I thought I don't know any Gaelic, would that hold them back, I wouldn't be able to help them with homework and things. Then she [her eldest daughter] was there [in the English-medium stream of the school] a few years and I got to know a lot of the parents in the Gaelic side, and ... very few of them did have any kind of Gaelic background, ... and their kids were coming on leaps and bounds. I was just won over by the whole thing, and there is definitely a lot of extra-curriculum stuff that goes along with it.

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A parent in an area of the Highlands and Islands with little community Gaelic said that her decision for Gaelic-medium education had been influenced by ‘an acquaintance really who had put their children through Gaelic medium’.

The pressure towards Gaelic-medium education resulting from local social networks was perhaps strongest where it has become part of a more general revival of interest in the language in places where it is still spoken, as noted by a headteacher of a primary school in a Gaelic-speaking area

the majority of children in our community choose Gaelic ... well their families choose Gaelic-medium education, I could see that it was rising, it was becoming more and more important, and it was becoming more and more popular in terms of a choice.

The availability of provision as a local option is the second way in which context influenced choice. A parent of a Gaelic-medium pupil in a Lowland area explained that she chose Gaelic medium because it was there:

We chose it partly because we were very keen that she went to her catchment primary school. And [Gaelic-medium education] happened to be a facility that was offered within the catchment primary school.

Another parent went so far as to say that ‘if [the school] hadn’t been our local primary school we probably wouldn’t have chosen Gaelic actually’.

4.1.6 Preference for English-medium education

The parents we interviewed who had children in English-medium education were all in schools with a Gaelic-medium stream, and thus would have been aware that the option was available. English-medium parents also might have chosen Gaelic medium, if their child had been in the school since they were very young. Some, however, had moved to the school later, and so these parents provide a different, almost external perspective on the process of choice. Our main interest here is in why, despite the availability of Gaelic medium, it was not chosen. We must bear in mind here that these English-medium parents chose to respond to a research project that was explicitly about Gaelic-medium education. It is possible, therefore, that they have unusually strong opinions, or views atypical of English-medium parents more generally.

4.1.6.1 English medium as the default

Some parents of English-medium pupils had not known about the choice of Gaelic-medium provision at their child’s school at the point at which their child started primary education. One parent of a Secondary 2 pupil in an urban Lowland area explained it thus:

I’ve known about the Gaelic unit at [the school] only probably for maybe the last maybe four or five years. And that’s only because somebody who lives round the corner has got two children who go to that Gaelic medium, and do their education in Gaelic. But to be honest it hasn’t ever been, you know, something that had crossed my mind as being particularly important.

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We were fortunate also to have interviews with a few parents who had moved into the catchment area of a school with Gaelic-medium education, and who thus could reflect back on the lack of existence of such an educational option and lack of awareness of Gaelic in a different place. One family had moved from the Lowlands to a Gaelic-speaking area of the Highlands and Islands, having educated their older son in English medium:

we used to live first of all in [Lowland town], and then in [second Lowland town], and ... there was no awareness of Gaelic, really, then, at all. I mean, I didn't know anybody who had anything to do with Gaelic, and anybody who sent their children to Gaelic. ... It just wasn't something we had ever, ever thought about. And it wasn't till we moved to [area of Highlands and Islands], and my husband just said right away, we're putting [our younger son] into Gaelic.

4.1.6.2 English medium for educational reasons

Generally, though, the parents of English-medium pupils had chosen English medium for specific reasons. The most common educational reason was the parents' fear that they could not help their child with homework in a language they did not understand. A parent in English medium in a Lowland primary said that Gaelic medium would prevent her being as involved with her child's education as she would have hoped:

I had been looking forward to getting involved with her homework. And I felt that [Gaelic-medium education] would be a barrier to my understanding and being able to help them at home.

Even some Gaelic-speaking parents who lived in a Gaelic-speaking area had doubts about their capacity to provide support with homework, and therefore chose English medium:

'S e Gàidhlig a th' agam ach chan eil mi cho comasach an-dràsta airson leughadh Gàidhlig is bha feagal orm an-dràst' a bhith ag obair air an obair dachaigh aice. Nach biodh mise comasach air cuideachadh dhi le leughadh is sgrìobhadh is mar sin.

[I have Gaelic but I'm not so good at reading Gaelic now and I was afraid about working on her homework. That I wouldn't be able to help her with reading and writing and so on.]

A sense of linguistic inadequacy might have been intensified by a memory of more adept Gaelic speakers in previous generations of the family. A parent in English medium in a Lowland primary said:

I felt that obviously we wouldn't be able to assist him because there was nobody else in the family. We don't have any relations that are left living that, you know, are Gaelic speakers.

This apprehension about not being able to help with their child's educational development persisted despite there being classes on offer to parents in which they might learn Gaelic, mostly because Gaelic is perceived to be a difficult language that takes more time to acquire than is typically available to parents of small children.

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This view is evident in a comment from a parent of an English-medium pupil in a strongly Gaelic-speaking area:

I know that there's classes for parents whose children are in Gaelic medium if they want to go and learn. But I felt at the time that my kids just started school, I felt that that just wasn't really an option. ... I was working full time. ... When we first moved here I had tried to learn Gaelic, I had gone to an evening class and I was absolutely rubbish at it.

Occasionally English-medium education was chosen because a child had had difficulties in Gaelic medium and had been transferred out of it, as in a case explained by a parent in a Gaelic-speaking area:

We got a new teacher when [our son] went into Primary 6, and things didn't really go at all well. It was very unfortunate that our head teacher at the time had gone off sick, it was a new younger teacher who really didn't have the support that they should have had, support all round if you know what I mean, and also the running of the thing, things that should have been put in place for the teacher were put elsewhere. So there wasn't the support for the teacher, and the teacher wasn't particularly coping very well. [My son] is the type of boy who will just put his head down and keep under the radar, so unfortunately he really suffered for that in that he didn't get a lot of attention.

4.1.6.3 English medium because of scepticism towards Gaelic medium or Gaelic

Some parents had chosen English medium because they disliked the structure in which Gaelic-medium education was provided. A parent of a pupil in English medium in a Gaelic-speaking area said that 'I think there should be no segregation.' Another parent of an English-medium pupil in a Gaelic-speaking area said that

I don't like the segregation of Gaelic [medium] away from English [medium]. ... I think Gaelic should be taught, just like they learn their alphabet, like they learn their numbers. It should be part of, the integral part of the school. They should be learning a language as they go through school just like they learned everything else. And that it shouldn't be separated.

Another parent of an English-medium primary pupil, in a Lowland area, had reservations about the co-existence of Gaelic-medium and English-medium streams within a school, expressed with diplomatic hesitation:

Divisive is possibly too strong a word. There is an emphasis, oh I don't know, it's difficult. I do, yes I mean I, yeah they are, funding is spent. But I mean to me it comes out if you go and see a school show for example. The Gaelic classes tend to be more polished but they are smaller classes, they've got more time to do it. If I'm being brutally honest they have far fewer disruptive pupils in there.

These people were generally not hostile to the Gaelic language itself, but some others were. One parent of a secondary pupil in English medium in a strongly Gaelic-speaking area said of her son's attitude to Gaelic that 'he hates it', and expanded:

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the other thing that annoyed him, and it's something that annoyed me, ... [is] the fact that you run out of words. It annoys him the fact that you will be rattling away in Gaelic on whatever subject, then suddenly this English word pops up like a huge beast, blah, blah, blah, sliced bread, and you sort of think wow, just wait a minute. He feels frustrated that it's not keeping up with the times as it were.

One primary headteacher in an area with strong community Gaelic noted that people who had grown up locally in families without Gaelic

have been quite vocal in the past that they hate the language, ... that they wish their child to have nothing to do with it. It's people who have been brought up here, have no Gaelic in their families, [that] have no interest in Gaelic.

Migrants to Gaelic-speaking areas might simply be indifferent to Gaelic, such as one parent of a secondary pupil in an area where Gaelic-speaking is strong: 'I don't actually come from here, I mean it doesn't really appeal to me.' There were also comments based on the belief that Gaelic is not indigenous to the whole of the Highlands, such as from one parent who chose English medium because of her own origins in an 'area of [the Highlands where] Gaelic's not been the sort of traditionally taught language.'

Nevertheless, the decision-making process that might result in choosing English medium was not always clear-cut, and some parents could feel a great deal of ambivalence about both options. One parent of an English-medium primary pupil explained this:

I mean [Gaelic]'s your heritage and all the rest of it. And it would probably be nice, personally I think it would maybe be nice if we were more like some of the Europeans where you were brought up bilingual and you spoke that language and you spoke English as well. But that's not the way it is and I don't think it will ever get back to being like that here.

4.1.6.4 English medium because Gaelic perceived to be of little use

Several parents who had chosen English medium for their child said that they regarded Gaelic as having little use, typified by a comment from a parent of a pupil in an urban Lowland school:

neither myself or my husband come from a part of [Scotland] where Gaelic is a used language as it were, and I think that I am quite interested in languages being useful I think.

Use might also apply to holidays or to job prospects, but according to neither criterion, some other parents said, would learning Gaelic be worthwhile.

Some pupils held a similar view, with one English-medium pupil remarking of Gaelic:

I don't find much point learning it ... because hardly anybody ... [in Scotland] ... ever speaks it and anybody that does speak it can speak English as well.

Another, imagining that Gaelic belongs to a world of which she is not part, said that

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Mull I think speaks Gaelic, but I have never been there so Gaelic isn't really useful to me, unless I speak to my Gaelic friends, but they speak to me in English. But French I would say is more important to me because I want to go around the world – and I am not going to go to Mull – countries like America, France, Paris and everything.

That kind of view was common; a third English-medium pupil said something similar:

I know on Skye quite a number of years ago they used to say it ... but I don't find there's any point because ... the Gaelic speakers are forgetting it and going onto English ... and in Scotland more people speak Polish than Gaelic.

Many English-medium pupils, knowing that Gaelic-medium pupils could speak English as well as they could, saw no point in learning the language because

the Gaelic class usually speaks English. ... Their main language really is English, but they've been taught Gaelic.

4.1.6.5 English medium for other reasons

Even parents of English-medium pupils who are interested in Scottish culture did not necessarily see Gaelic as being central to it (in contrast to those parents, cited in Section 4.1.1.4 above, who gave an allegiance to Scotland as one reason for choosing Gaelic-medium education). One parent of an English-medium pupil in an urban Lowland school said that 'I don't feel if I learnt Gaelic it would help me enjoy Scotland or understand Scotland better.' The argument from family heritage (Section 4.1.1.1) could also work against Gaelic medium, as in the case of another parent from a Lowland school, who said they had chosen English medium 'because there's no history of our family, you know, speaking another language or speaking the language of our own country.' However, the variety of parental views here is evident in this latter parent's linking of Gaelic to national identity, in contrast to the former.

4.2 Influences on continuation of medium of education into secondary

In discussing reasons for choice of medium of education at secondary level, we consider only factors that are specific to the secondary-school level, and do not reiterate the general reasons that might apply to both primary and secondary. Most of these would remain as background reasons.

4.2.1 Inertia

4.2.1.1 General desire for continuity

As with continuity between nursery and primary (Section 4.1.5.1), so also there was a strong incentive to continue with Gaelic medium at secondary school once it had been undertaken in primary. The headteacher of a secondary school in the Lowlands said that

I think continuity from primary school is the major factor [in decisions regarding the medium of education of secondary schooling]. The vast majority of our Gaelic

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pupils come from one designated primary school where they are brought through with the Gaelic language from nursery right through to Primary 7. And the strong emphasis on continuity is what initiated the secondary development and that's the major driver.

Many parents would agree. One, from a school in an area of the Highlands and Islands that has little community Gaelic, said that the decision for Gaelic-medium at secondary was

just for the continuity really, I mean I know from ... seeing other children who haven't gone on to secondary Gaelic medium, they do lose [the language] to a certain degree, you know obviously they wouldn't lose it completely but they definitely do lose it if they are not using it.

In an area that is strongly Gaelic speaking, said one parent,

I think it was just presumed if you were in Gaelic medium [primary] that you would just be put into Gaelic-medium classes [at secondary] where available; if you were taking history, if it was available through the medium of Gaelic you got it through the medium of Gaelic. ... I was quite happy for her to do any subject up there in Gaelic medium, I never thought to ask was there an option. I mean it's the same with the nursery, you were just expected to put them into Gaelic primary school.

In communities in the Highlands and Islands that had only one secondary within reasonable distance, the choice of attending a secondary that had no Gaelic medium might not be available, and then the presumption of continuity came to operate even more strongly.

Some parents suggested that from the pupils' points of view continuity might mean as much friendship as language, reinforced in fact by the tendency of primary Gaelic-medium pupils to forge close friendships. A parent in a Lowland area said that

[continuity to Gaelic-medium secondary provision] first and foremost is because all the children that are in the Gaelic unit are extremely close. A lot closer than their counterparts in the English mainstream, just because literally they have been together since they were in playgroup, you know, so they have known each other since they were toddlers and they have grown up together. So they are very close, and I think they kind of equate Gaelic with being that close.

The pupil data supports such a supposition. One pupil from a Gaelic-speaking area explained her decision to stay in Gaelic-medium education at secondary school in terms of the continuance of her tight-knit primary-school friendship group, which consisted of pupils who 'like being together and stuff and speaking Gaelic.' She noted: 'I wanted to do Gaelic-medium because my friends were there and we enjoy doing the Gaelic because it gives us the chance to be alone.' Another pupil saw the Gaelic stream at secondary as a way of developing friendship with pupils from Gaelic-medium streams in other primary schools: 'some of my friends that are in Gaelic from other schools are in' the secondary-school Gaelic classes.

4.2.1.2 Not wasting achievement in Gaelic-medium primary

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Much of this desire for continuity of Gaelic-medium education into secondary school was focused on the sense that it would be a waste not to build upon what had been achieved at primary. A primary headteacher in a Lowland area said that many parents encourage their children to continue onto Gaelic-medium secondary because 'they feel that their children have got such a sound basis in Gaelic, that it would be a shame not to take that on to a further stage'. A Lowland parent linked the continuation of Gaelic from primary to secondary to further continuity right through secondary:

[We] just felt it was a continuation, that they put that much time and effort in during primary school, we wouldn't want them just to stop doing it, we would like them to continue on with it. Obviously in the fullness of the time they would get their Highers, their Standard Grades etc.

The mother of a pupil in Gaelic medium in a different Lowland area said that 'I think once he has stopped doing the Gaelic [it] will be kind of out the window', and so she was keen that her son continue with the Gaelic-medium provision at secondary school.

Pupils were well aware of the work that they had put into Gaelic and thus of the value of continuing with it, as three instances illustrate:

I've learned it all the years and there's no point in stopping now.

Because I've done it for so long it would be a waste if I just don't continue with it.

I think it would be a waste of time really if I stopped. Well, it wouldn't be a waste of time but ... I think I have achieved quite a lot by doing it so I wouldn't want to stop anyway.

4.2.1.3 Information about secondary school

Parents and primary headteachers were asked about whether information was available about Gaelic-medium educational provision at secondary school and about the liaison between primary and secondary schools regarding continuity of Gaelic as a subject and as a medium of education of other subjects. The headteacher of a primary in the Lowlands described a close working relationship with the secondary that provides Gaelic medium. This relationship applied to both Gaelic-medium and English-medium pupils, but it did ensure that the former were fully aware of the linguistic choices that were available to them at secondary:

we are very lucky here, our secondary staff come down and work with the Primary 7 pupils for the year, prior to them going up. So [the teachers] come down and work in classes, and take them for activities; one of the ladies is particularly interested in History and social subjects, so she does a lot of work with them on that. There is a science teacher and there is a Drama teacher as well, so they come down and they get to know the children.

However, some parents from this school were less impressed: 'The only thing I would like is ... a bit more information on schools, a bit more of what subjects are and what subjects aren't in English or Gaelic.' Similar sentiments were sometimes stated elsewhere, such as in a school in an area of the Highlands and Islands that has

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little community Gaelic. The parent said that she ‘went along and asked’ the secondary school what their Gaelic-medium provision consisted of in the absence of having been provided with information about the medium of education of secondary subjects. In a strongly Gaelic-speaking area, too, a parent expressed dissatisfaction with the information provided to parents about the Gaelic-medium options at secondary school.

4.2.1.4 Pupil involvement in decisions

Several people reported, not surprisingly, that pupils themselves were more involved in decisions about language at secondary school than they had been on entry to primary school. It was explained by one parent in an area of the Highlands and Islands that has little community Gaelic that her daughter had been involved in the decision regarding the medium of education of her secondary schooling, but perhaps rather more with a veto than with a direct contribution to the outcome:

she was definitely part of the decision. I mean if she detested learning that way [Gaelic medium] then obviously we wouldn’t have carried on. ... There were some kids that did really well in Gaelic, they were in the Mòd competition, everything like that. And they’ve stopped. ... I think it’s [then] just a bit of a waste of time doing it in the first place.

Where the pupil was not involved in the decision-making process, the reason for continuing with Gaelic-medium secondary education was this matter of not wasting what had been achieved, as in a comment from a parent of a Gaelic-medium pupil in a Lowland area:

[the medium of secondary education] was never actually up for debate because it was one of those things, when he went to cròileagan when he was three, that meant he was going to [Gaelic-medium primary] and then he was going to [secondary with Gaelic-medium provision]. So I suppose yes, it was a parental decision.

4.2.2 Gaelic medium perceived to be more difficult at secondary

Alongside this desire for continuity there was sometimes also a perception that taking subjects through the medium of Gaelic would be more difficult at secondary than at primary. The headteacher of a secondary school in an area of the Highlands and Islands with little community Gaelic put it this way:

I think that sometimes parents do perceive [that] doing Gaelic medium subjects [is] more difficult and give a higher priority to [getting] a better qualification through English.

A parent of a child in a Lowland secondary school taking several subjects through the medium of Gaelic had

a worrying, nagging doubt in the back of my head ... : would she have always been achieving higher grades and doing better in terms of kind of paper results if she had been doing [her subjects] in English?

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She also expressed a common perception that science, in particular, is more difficult in Gaelic than in English:

I am really concerned about science. ... I mean I am not a scientist, but if you think of something like physics for example, it has its own language all its own, you know, the words, the vocabulary, that you would have to learn to do physics. I mean I am concerned that she will be learning a third language now because she will have to learn the Gaelic for the English.

Other parents were concerned about not being able to help their children with the more advanced stages of their education if subjects were taken through the medium of Gaelic. One parent of a Gaelic-medium pupil remarked:

particularly if neither of us are fluent and we don't speak Gaelic in the home a great amount, it's quite difficult when you might start feeling that you are not giving them the support that they need at such an important stage in life.

(We return in Section 4.3.1 to the question of the medium of education of secondary-school subjects.)

A Local-Authority adviser in a Gaelic-speaking area reported a parental view that fluency would be achieved by the end of primary:

Tha cuid de phàrantan ann a sheo ... a' smaoinneachadh nuair a tha [a' chlann] a' ruighinn Prìomh 7 gu bheil Gàidhlig aca is gu bheil sin na dh'fheumas iad. Ach gu follaiseach, tha mise a' faicinn Gàidhlig na cloinne sin ... 'S chì mi gu bheil comas sgrìobhaidh na cloinne sin air a dhol air ais anns na còig bliadhna ... Agus 's e dìreach gum feum iad barrachd is Gàidhlig mar chuspair a dhèanamh anns an àrd-sgoil. Tha mi a' smaoinneachadh cuideachd gu bheil iad a' gluasad bho àrainneachd far a bheil iad a' bruidhinn na Gàidhlig gu tric gu àrainneachd far nach eil iad a' bruidhinn mòran Gàidhlig, a dh'innse na firinn. Tha sin na chnap-starra dhaibh, tha mi a' smaoinneachadh. So tha mi a' smaoinneachadh mar chomhairle gum feum sinn dìreach cothroman anns a' chlas is taobh a-muigh a' chlas an cànan aca a neartachadh. Agus feumaidh sinn, nach eil an sgoil i fhèin co-dhiù a' dol a thoirt beartas cànan do chloinn. Tha mi a' smaoinneachadh gum feum sinn ceanglaichean nas làidire a dhèanamh le CLD mar a chanas iad, eil fhios agad, community learning, gum feum sinn rudan làidir a dhèanamh dhaibh a thaobh cultar is dualchas na Gàidhlig.

[Some of the parents here ... think that when [the children] reach Primary 7 that they speak Gaelic and that's all they need. But clearly, I see those children's Gaelic ... I see that those children's writing skills deteriorate in the five years ... And it's just that they need to do more than just Gaelic as a subject in secondary school. I also think that they're moving from an environment in which they speak Gaelic to one where they don't speak much Gaelic, to tell the truth. So I think that we as a council just need to strengthen the opportunities in the classroom and outwith the classroom. And we need, it's not just the school that's going to provide the children with richness of language anyway. I think we need to build stronger links with the Community Learning Department, that we need to take major steps with regard to Gaelic culture and heritage.]

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A parent of a Primary 7 pupil from a Gaelic-speaking area exemplified this view:

We are really just happy that the children have Gaelic and understand it. We are not really wanting them to have every subject in Gaelic any more. We just want the best now, ... the best teacher for our children. ... They have the basic Gaelic understanding and that's really all we wanted as parents.

In consequence of the view that the end of the primary-school stage marked a natural end for Gaelic-medium learning, and of a belief that what mattered at the secondary stage was attainment, several parents hovered between Gaelic-medium and English-medium education at the early secondary stage. One parent of a child in a Gaelic-medium stream at primary additionally introduced the notion of opportunity after school when she said of Gaelic-medium secondary education:

I am not completely sold on it because when you are leaving high school I still think there are fewer opportunities to use that language in Scotland. I mean I know it's grown now in the last few years, but I think it will still be another few generations yet before there is going to be ... a lot of Gaelic out there. Now, unless you are maybe going into the TV and media, or something like travel, I think that might be the only places you could use that language, so I am still a wee bit reserved, I think obviously [when] she will leave high school, she will be better with certain subjects to back it up with in English if she wanted to carry [the subject] on elsewhere.

Moreover, in the end, the child's interests were always put first, over any ideological commitment to the Gaelic language. A particularly interesting case was a parent in a strongly Gaelic-speaking area who described herself as 'totally committed to Gaelic-medium education', but whose daughter switched away from Gaelic in Secondary 3:

the way that the choices were offered meant that she couldn't continue Gaelic as a language along with French as language, along with a science, and she wanted to do two sciences, ... because of the quality of teaching she perceived that French would be the better option.

Moreover, this parent had doubts about learning subjects through Gaelic at secondary level because of what she believed to be the unacceptable variability of teaching quality.

4.2.3 Quality of the secondary school

Some parents said that the option of attending a secondary school with a high general reputation was one reason to continue with Gaelic medium, such as this instance from a parent in a Lowland area:

[the Gaelic-medium secondary] is a very good school. ... You know, you are not going to turn down a place [there], and our catchment secondary school where we lived at the time is one of those within a really deprived area, totally unsuitable, and I wouldn't say that was the only reason he has gone to [Gaelic-medium secondary], but it's certainly helped.

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One parent inferred qualities of Gaelic medium at the secondary school from the mere fact that parents had to opt into it, and thus must be committed to their children's education: 'by definition most of the children are there because their parents have chosen them to be there, so you know the parents are more interested in the school.'

A common theme also was that Gaelic-medium secondary education was close to the characteristics of independent schools. In the words of a parent of one Lowland pupil: 'Well I mean, you know, we are looking at either paying private or [secondary school with Gaelic-medium provision].'

One parent in a Lowland area linked the general quality of the secondary school with the Gaelic-medium provision there:

I think he has got a very good education that way [through Gaelic-medium education]. ... I think the provision at [secondary school name] is really good, that the quality ... of [the school] is very high. ... So they are ... thinking through the Gaelic as well, and obviously they are getting English at home so it's a good contrast for them.

4.3 Provision of Gaelic-medium education

Many respondents made comments on aspects of educational and language policy.

4.3.1 Expansion

Several of the parents, while aware of the expansion of Gaelic-medium education that had taken place in the last few decades, wanted more. There was general satisfaction with the experience of Gaelic-medium primary education, but many parents wanted much more extensive Gaelic-medium learning at secondary. A parent of a primary-school pupil who was in Gaelic medium in a Gaelic-speaking area said that

if there was a stand-alone high school where ideally they could have every subject taught in Gaelic except for English then I would probably opt for that.

This parent also would want such a school to conduct its informal affairs in Gaelic so that Gaelic-medium pupils would have to use Gaelic in communal areas:

I firmly believe that if you don't have Gaelic in the playground or in the communal areas [the pupils' fluency will suffer]; the conversation of Gaelic is what is more important, to me the conversational Gaelic is more important than the actual written and ... the exams they do in Gaelic and everything else. To me I would rather them be able to converse fluently and it's that fluency I would like to see them keep.

Several parents knew about Sgoil Gàidhlig Ghlaschu (the Glasgow Gaelic School), and would like there to be something similar in their own area, such as this respondent from a Lowland district:

I would have liked something more like what they have at the Gaelic high school in Glasgow, where they have got several subjects that [are] taught in Gaelic, and just the sort of nice culture of doing music together, you know, and continuing on

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with that informally, that informal sharing of Gaelic ... something where there was more than one subject taught in Gaelic, and there was a big enough wadge of children that are all doing it, that it actually isn't a freak thing.

Some pupils also liked the clarity that they felt would follow from studying every subject through the medium of Gaelic. One primary pupil, looking towards secondary, said that

if you had everything in Gaelic it would make it easier for different subjects instead of one English and five Gaelic or something.

One source of the parental pressure for Gaelic-medium secondary education was perceived to be the expectations raised by the experience of Gaelic-medium primary schooling. As a headteacher of a secondary school in a Gaelic-speaking area said:

most of [the parents of Gaelic-medium pupils] would like their children certainly up to first and second year to have more Gaelic, experience more Gaelic. And some of them have expressed great frustration that even now all these years on I can only offer one subject to Standard Grade. They just cannot understand why ... there's so much in the primary sector and in secondary there's nothing. ... Why are we still [after] all these years not getting this right?

Some parents would like all subjects at secondary to be taught through the medium of Gaelic, while recognising that there might have to be some flexibility where the technical vocabulary does not exist in Gaelic. Typical of this group is a parent from a Lowland secondary whom we have previously quoted in relation to the comment on technical vocabulary in Section 4.2.2:

I don't think there's really any subject that you couldn't do in Gaelic, even when it comes to Physics and Chemistry and no doubt Biology and certain subjects. These are international ones. So there doesn't need to be a Gaelic equivalent. But the teacher should be speaking Gaelic then.

Other parents and pupils, however, would be happy to have only the social subjects and humanities in Gaelic, believing them to be more suited to Gaelic-medium education than the sciences. A parent in a school in the Highlands where there is little community Gaelic said that 'when children are sitting Chemistry and Maths and Physics it's very hard to do it in English as it is. And I think it must be harder to sit that in Gaelic.' Another parent from the same school said:

I actually don't think I would want them getting taught things like Maths in Gaelic, do you know what I mean, I just feel it's scientific enough for them to cope with without the added burden of a language on top of it. And sometimes Gaelic just doesn't translate that well into certain things, and I think it's quite sufficient that they do things like History and Geography which lend themselves more naturally to it.

A pupil expressed a similar approval for social subjects' being learnt through the medium of Gaelic:

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History and Modern Studies and stuff, if it was mostly Gaelic but a bit of English then ... if we didn't understand what the words were, ... they might be able to tell you in English.

Some pupils reported it to be difficult to learn science and mathematics in Gaelic: 'in Chemistry and Biology and Physics [we] have got all these names that would be very difficult to learn in Gaelic, and Maths, it's just easier using English numbers.' Another pupil had thought carefully about the practical or applied uses of language: in 'ICT, well it would just be weird if it was in Gaelic because like "computer" and "wireless connection" ...' and said that in science 'you are learning how to do experiments and stuff, except that you are learning how to do them in Gaelic which would just make it confusing.'

Gaelic-medium pupils often wanted to be provided with bilingual terminology in all Gaelic-medium subjects, for reasons that one pupil clearly explains:

you learn [a given subject] in Gaelic so you can do it in Gaelic ... but in other ways it's good to learn it in English as well. So you know what it is, so you just know what it is. Because you're not speaking ... Gaelic every day in the outside world.

Another pupil related that kind of point specifically to educational experiences after leaving school, and hoped that wanting to be fluent in Gaelic would not preclude also acquiring the relevant capacities in English:

I'd like to learn some more subjects in Gaelic but I would like to also learn them in English, so that when I go to college I'll know how to do everything in English *and* in Gaelic.

Our questionnaire survey of secondary schools showed that existing provision of subjects through the medium of Gaelic varies by secondary school. Of the 16 secondaries which replied to the questionnaire, only seven gave detailed information about which subjects were taught through Gaelic. The most common were Geography (six) and History (five). Science was provided in Gaelic in four schools, Personal and Social Education, and Modern Studies in three, Religious and Moral Education in two, and Mathematics, Home Economics and Art in one. Generally, for each subject, over 90% of the teaching time was through the medium of Gaelic, although a minority of those schools gave less than 90% Gaelic-language input even where they described the subject as being provided through the medium of Gaelic.

4.3.2 Difficulties of provision

4.3.2.1 Flexibility

Several headteachers explained the difficulty of offering pupils a choice of medium of learning of subjects at secondary school. One, from a Lowland secondary, had started with the intention to be flexible:

When we first started this we tried to be very flexible and accommodate parental choice. What we realised very quickly was that even with maybe half a dozen to ten Gaelic parents their own individual perspective on what they wanted the child

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to do made it impossible for us actually. ... So what we had to do was make our own decisions as to the sort of core provision that we would extract Gaelic pupils from in order to provide Gaelic in the first couple of years at school. And on that basis we then move forward into certificate stages. What we've also done however is with the provision of additional Gaelic staff, with the expertise they've had, we've gradually and progressively extended the range of subjects that we teach through the medium of Gaelic over a number of years.

A headteacher of a secondary in an area of the Highlands and Islands that has little community Gaelic made a similar comment about having a core Gaelic-medium provision:

you do all of those subjects through Gaelic rather than being able to opt in or out. At the beginning, in the first year in Secondary 1, we had a couple of kids who were swithering. But we did a bit of work with the parents and talked them [the pupils] round to say 'this is, your language will be much stronger if you are doing it across a range of subjects'. And they accepted that and it's actually worked quite well.

4.3.2.2 Supply of teachers

Nevertheless, although timetabling was thus one constraint on the provision of Gaelic-medium secondary education, the main problem was the supply of suitably trained teachers. This was noted by secondary headteachers, by primary headteachers (although mainly in relation to secondary), by Local-Authority advisers, and by parents of Gaelic-medium pupils in primary and secondary schools across Scotland. One secondary headteacher in an area of the Highlands and Islands that has little community Gaelic reported that

the biggest single issue we've had has been trying to recruit staff. When we started I advertised for a Maths and/or Science [teacher] through the medium of Gaelic and got no applicants.

One Gaelic-speaking parent thought that the decision as to which subjects might be taught through Gaelic was due in part to the availability of teachers with the necessary subject knowledge and linguistic skills:

Mar is trice, an fheadhainn a tha a' teagasg Eachdraidh is Cruinn-eòlas, 's e sin an dàrna cuspair a th' aca agus 's e Gaidhlig an cuspair eile a th' aca, so, tha cuspairean ealain is cuspairean sòisealta caran a' dol còmhla, agus na daoine a tha a' dèanamh Matamataig is Saidheans is mar sin, tha iad air leigeil seachad cànan, chan eil iad cho làidir air cànan anns an àrd-sgoil. Is math dh'fhaodte gun atharraich sin nuair a thòisicheas barrachd dhaoine a' tighinn a-mach às na sgoiltean Gàidhlig ... Tha mi a' creidsinn gur e math dh'fhaodte Saidheans is Matamataig na cuspairean mu dheireadh far am faigh sinn daoine leis a' chànan agus an t-eòlas.

[Usually, the people who teach History and Geography, that's one of their subjects and Gaelic is their other subject, so arts and social subjects sort of go together, and the people who do Maths and Science and so on, they've dropped languages, they're not so strong on languages in secondary school. Maybe that will change

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when more people start to come out of the Gaelic schools ... I think that Science and Maths might be the last subjects where we find people with the language and the [subject] knowledge.]

There were also perceived to be issues of staffing with regard to primary teachers in more rural locations. An adviser in a Lowland area thought that the problem of recruiting and supporting teachers may well be worse for schools that are far from centres of population:

We have had problems at times having to re-advertise things. But it can be a lot worse in the Highlands ... where you can't get young people to come and invest five years of their life: they are wanting to live in the big city.

A parent of a Gaelic-medium primary-school child in a Gaelic-speaking area of the Highlands and Islands noted:

And being on an island does add to the whole thing as well, because you get [younger] teachers that come to the island, ... and they go away which is totally understandable. ... And there's another teacher who has been there for a long time, about seven years or so, so it's maybe a bit easier to get [young] teachers in [with the support of the existing teacher] rather than a young teacher coming and having to have the whole thing without a back up.

An area of staffing which affects both the primary and the secondary sectors is the provision of Gaelic-speaking support staff. One Local-Authority adviser thought there were particular problems in recruiting Gaelic-speaking support staff for children with specific learning difficulties:

Neach-agallaimh: Dè mu dheidhinn clann a tha feumach air taic a bharrachd? Dyslexia is mar sin air adhart. A bheil goireasan agus luchd-obrach a tha comasach air sin a làimhseachadh? Ann an Gàidhlig, tha mi a' ciallachadh.

Neach-freagairt: Tha is chan eil agus 's e am freagairt air an sin, gu bheil e a rèir cò a tha faighinn an cuid obrach is uaireannan ged a tha Gàidhlig a' nochdadh ann an sanasan obrach, gum feum Gàidhlig a bhith aca, no [gum bu chòir] sgilean Gàidhlig a bhith aca, gu math tric, chan eil luchd-teagaisg no luchd-taic a' cur a-steach airson na h-obraichean aig a bheil Gàidhlig. Tha sinn fortanach anns na [cuid de sgìrean Gàidhlig], can, tha luchd-teagaisg againne a tha a' dèiligeadh ri feumalachdan sònraichte, luchd-teagaisg aig a bheil Gàidhlig is tuigse den t-siostam, ach cha b' urrainn dhomh a ràdh, eil fhios agad, gu bheil sin fìor anns a h-uile sgoil [anns a h-uile sgìre Ghàidhlig]. Tha e dìreach a rèir na tha a' dol gu h-ionadail. So tha ann an cuid de dh'àiteachan agus cha bhi ann an cuid de dh'àiteachan, a dh'innse na firinn. Agus tha mi a' smaoinneachadh gu bheil beàrn ann an cuid de dh'àiteachan far nach eil an taic aca a thaobh Gàidhlig. Tha mi a' smaoinneachadh, a-rithist, gu bheil beàrn nàiseanta ann a thaobh speech therapists is rudan mar sin le Gàidhlig.

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[Interviewer: What about children with additional needs? Dyslexia and so on. Do you have facilities and staff that are able to manage that? In Gaelic, I mean.

Respondent: Yes and no is the answer to that, that it's according to who gets the job and sometimes even if Gaelic appears in the job advertisement, that Gaelic is essential or desirable, quite often no teachers or support staff with Gaelic apply for the jobs. We're lucky in [some Gaelic-speaking districts] for example that we have teachers who deal with special needs, who have Gaelic and a knowledge of the system, but I couldn't say, you know, that that's true of every school in [Gaelic-speaking areas in general]. It just depends on what's happening locally. So yes in some places and no in some places, to tell the truth. And I think there's a gap in some places with regard to the support they provide for Gaelic. Again, I think that's there's a gap nationally with regard to speech therapists and so on with Gaelic.]

4.3.2.3 Training of teachers

Part of the problem of teacher supply was perceived to be a lack of adequate training. A primary headteacher, reflecting on her own training as a teacher, said:

one thing from my own personal experience: I went to [teacher education college] and did my postgrad. And that was fine but it was nigh on identical to the English postgrad. ... From a primary perspective there was maybe seven or eight hours total in the year, [and there were] nine months before you had anything to do with Gaelic. You had a ... pre-school placement for two weeks in Gaelic.

A parent of a pupil in a secondary school in an area of the Highlands and Islands with little community Gaelic noted what she perceived to be the need for continuing linguistic development for some Gaelic teachers:

At the likes of [secondary school] I know that quite a number of people dropped [Gàidhlig for fluent speakers] as well because the teacher was really not up to scratch with her Gaelic. ... Gaelic-medium children were speaking to her in Gaelic and she was replying in English. Because although she might have been OK at teaching learners, she just wasn't up to the level they needed to teach Gaelic-medium kids ... which sort of links into the provision of teacher training courses.

A parent in a Lowland secondary remarked on the effects of a local perception that Gaelic-medium teacher supply and quality were uncertain:

I think the numbers coming into Primary 1 Gaelic medium may be tailing off as well, because the word is getting round that things are a bit insecure, that the council is not necessarily supportive, and that staffing is a problem. And people with their kids starting school don't want to set them on that road [of Gaelic-medium education] if there is uncertainty there, so that is a real concern and a sorrow, if the unit is going to kind of shrivel.

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However, there was also universal agreement among those who commented on this issue that the over-riding requirement was to have an effective teacher; their linguistic capabilities, however important, mattered less. One parent of a primary Gaelic-medium pupil – in a Lowland school – regretfully noted that ‘you can end up with some teachers who, [although] they speak Gaelic, are not good teachers.’ Another parent of a pupil in Gaelic-medium primary education in the Lowlands said that

I also think about the quality of teaching as well, because they are so desperate to get kids into Gaelic medium. ... I hope that [the pedagogical process that will allow people to be Gaelic medium teachers] is not going to be compromised.

The issue of teacher quality might also work in favour of Gaelic medium. One parent of a pupil in a Gaelic-speaking area of the Highlands and Islands, whose child was fluent in Gaelic at the end of primary, reported that her daughter had decided to do Gaelic-medium science in Secondary 3 ‘because the science teacher was so good and she’s hoping that she’ll get him next year as well’, even though she had decided not to continue with Gàidhlig as a Standard Grade subject.

4.3.3 Relationship between Gaelic medium and English medium

There was much dissatisfaction by parents at secondary-school level if the pupils were extracted from some other parts of their secondary curriculum in order to take Gaelic. This would happen in a school that provides Gàidhlig as a subject for pupils who were in Gaelic medium at primary, but does not offer any Gaelic-learners provision for the English-medium pupils. One primary parent in a Lowland school was apprehensive about this, looking towards secondary:

I was slightly surprised that they said that for his foreign language he gets Gaelic, so instead of continuing with the German that he has done for the last two years he will be doing Gaelic. Now I am not entirely sure that everybody would necessarily want that, and I have not kind of spoken to [my son] about it myself. I think because they [the Gaelic-medium pupils] will be going as a group that is probably what he would prefer, because he is not all that into the German, but if he had been into German he might have done all he is ever going to do in Gaelic, and it might have been more appropriate that he had a choice.

Extraction could also lead to some disparaging remarks from English-medium teachers, according to one parent of a Gaelic-medium child in a Gaelic-providing secondary school in the Lowlands:

[the pupils taking Gàidhlig] got loads of extra homework in first year because they had missed English classes. For the Easter holidays they got mountains of homework because they were Gaelic kids, and the kids themselves have had comments to them [from the teachers] about ‘oh no you are one of these Gaelic kids’ and things like that.

Another parent from the same school complained that

the staff seem to consider it a nuisance that they’ve got these Gaelic children. And [they have] very negative attitudes towards ‘the Gaels’ as they call them, ... which I have heard first hand. I’ve not been very happy about that. I haven’t actually

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heard of the pupils being negative about Gaelic. But I have heard other parents saying that, you know, Gaelic is not cool.

A primary parent in another Lowland area did hear comments hostile to Gaelic from English-medium children:

they would refer to anybody in the Gaelic unit as gay-licks. ... And that was coming through quite early on, and by that point, by Primary 5, the kids know what 'gay' means.

From the perspective of English-medium pupils, one parent noted that although 'the [Gaelic-medium pupils] can be a wee bit clannish', nevertheless her daughter is not perturbed: 'I don't think it really bothers her, no.'

Some parents of English-medium pupils were not aware of the extent of the contact with the Gaelic side of the school, such as in a Lowland secondary:

I mean I know [my son] has friends who are in the Gaelic unit. You know, he has people who are acquaintances that he knows at the high school who are Gaelic speakers and go to the Gaelic things. But apart from that I couldn't really tell you what interaction there is between them. I've never really heard him talking about it.

There were also reports of very good relationships between the streams. Headteachers reported making efforts to include the English-medium pupils in the Gaelic ethos, such as at a primary school in a Gaelic-speaking area:

the children have almost equal exposure to Gaelic in whole-school situations. So whether it's dinner or assembly or in the line or in the playground it's all Gaelic that they hear and they are encouraged to use. And they do and the vast majority of time do use it. ... They've maybe come to us from Romania, Poland, Korea, China. And they've no English but they've learned the Gaelic. Part of the nativity [play] will be through the medium of Gaelic.

A parent of a Gaelic-medium pupil in a Lowland secondary said of the existence of Gaelic-medium pupils in the secondary school that 'the non-Gaelic teaching staff have been enthusiastic.'

Several parents of English-medium pupils welcomed the diversity that having a Gaelic-medium stream brought to the school. For example, a parent of an English-medium pupil in a part of the Highlands and Islands with little community Gaelic said:

So he now is wonderfully mixing up with them [the Gaelic-medium pupils] because before when they went to [different secondary] my older son ... never saw any of the Gaelic children who were his own age. ... I think it adds to the diversity.

The parent also used this as an argument against having an all-Gaelic school. One Local-Authority adviser in a Lowland urban area commented on the cultural effects of school-based linguistic diversity of which Gaelic was part: pupils come from all over the world, find themselves in a school where 18 languages are spoken at home, and

they just love the Gaelic because that's part of a multi-cultural environment I suppose. ... This [school] is perceived as a very inclusive environment. And they all seem to accept the Gaelic and there's no feeling of us and them.

4.4 Contexts and purposes of Gaelic medium

Many respondents discussed the relationship between Gaelic-medium education and the social contexts in which it takes place, whether local or national.

4.4.1 General

There was a perception that Gaelic-medium education should relate to the ways in which Gaelic is being used in the community. An adviser in a Lowland Local Authority would like

a nice healthy Gaelic-in-the-community aspect to the secondary provision. You have to have it related to life outside the school, whether it's the BBC or the parliament or people going on work experience to Gaelic nurseries up North. ... There must be some way of getting it into the real-life world of business and trade. Cultural tourism is all very well but I think you've got to have real reasons for doing it otherwise it becomes quite rarefied.

The creation and sustenance of a relationship between Gaelic-medium education and the Gaelic-speaking community does require Gaelic speakers from the community to use Gaelic with each other and with the Gaelic-medium pupils, however. As one parent (from an area of the Highlands and Islands with little community Gaelic) said:

But [my husband and I] are not fluent at all, so it's just really in school, there are not a lot of places in the community, you know. For example my granny, who is 94, lots of times I could have throttled her when my eldest son was younger, because he would say something [in Gaelic] and she would always, always, always criticise, tick him off for not pronouncing it right, you know, so it was always negative, negative, negative. And that is so discouraging, you know, isn't it? I notice in the school here it's got a lot of the parents from the islands and that, and there are a lot of fluent parents around, but no, it tends to be, just given the choice they will sort of lapse into English, and there is not a lot in the community to be quite honest.

Another parent, in a Gaelic-speaking area, was very pessimistic about Gaelic-language use in the community:

I think they are spending millions and millions [on trying to revive the language] and they are seeing no results, that's my impression. I mean there is a lot of flowery, media-centred things going on on the surface, but underneath you are losing the battle.

One parent in an area of the Highlands and Islands with little community Gaelic had chosen English-medium education for her children, even though she was committed to Gaelic, because she believed that inter-generational transmission, rather than immersion education, was the means to sustain the language:

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I understand that fully immersing them in the language [at school] will bring it on, but if it's about learning the language and keeping it alive, ... it's going to die if you don't have Gaelic-speaking parents. If you're having to [use] Gaelic medium to keep the language alive, it's definitely going to be a dying language at some point.

However, others were more optimistic. Some thought that Gaelic-medium education could help revive the language, such as a parent of a Gaelic-medium pupil from a Gaelic-speaking area:

I think that ... having a Gaelic-medium school in a community will help ... keep the language in a community, especially for the likes of here where you have a lot of people that have come in from elsewhere who want their kids to go into Gaelic medium, but you have got a lot of ... well not a lot now but [in the past] ... there were quite a lot of locals who being native speakers themselves didn't see the point of putting their grandchildren ... into Gaelic medium. But now that it's been done, now that their children put their children into Gaelic medium, they are now seeing the benefit of it.

Another, a parent in a Lowland area who is herself learning Gaelic, welcomed the changes that, she thought, Gaelic-medium education was bringing to the language:

the language [is] moving on, ... they are changing it slightly, but then English has changed if you go back through hundreds of years. They [the children] count differently from the way my teacher will teach me, so I am kind of taught to count old ways, like twenty times two and plus five and all that. You need a calculator, but they decimalised it really [for the children]... . They [the children] can do it the new way, and actually for them that's when you laugh because when they hear me counting they look at me and say what are you doing mum. And I am like that's the way they do it up in Highland, and they are like that's not the way we do it in class. And I think some of their grammar is being accommodated for modern times as well. So they are changing it a wee bit too, but they are still speaking it and keeping it going.

Another parent in a Lowland school thought that Gaelic medium was helping to modernise the language – 'it's probably diversifying the Gaelic language' – but that the old ways of speaking should not be lost:

my parents, ... their Gaelic is fantastic. They have got beautiful clean Gaelic. ... And it's so nice to hear old words and ones you don't really hear nowadays. ... And I feel that's very important for [the] language too.

A parent in a Gaelic-speaking area believed that Gaelic-medium education needed to be presented as being relevant to modern society and culture, and refers to an attempt by the school to engage with the community:

they go to their classes and it's old stories from old times, and maybe not enough of the kind of modern stuff. What they had wanted to do was bring different people in from the community who would chat about their [lives]. For the children to see it's not just in my home and it's not just in the classroom, it's just a little bit more than that.

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A pupil expressed such an association of Gaelic with the past, referring to the language rather than the culture: ‘Gaelic’s an old language so there’s no Gaelic for modern stuff like computer or plug.’

These parental and pupil comments on the nature of Gaelic were, of course, informal and anecdotal, based on their own memories and experiences. We cite their comments, then, not as a scholarly assessment of the nature of the Gaelic that is learnt in the classroom but rather as an indication of the views of that learning which exist in the community.

4.4.2 Children’s use of Gaelic outwith school

Whatever their views about the future of Gaelic, everyone agreed that the health of the language depended on children’s using it outwith school. In Lowland areas, said one parent,

it’s hard to use the language outwith school, if they are out and about, because there isn’t anywhere much that you can ... do you know what I mean, it’s not like you can go into a restaurant or anywhere and order things in your language.

Another parent in a Lowland area believed that it was impossible to get children to use the language outside the classroom because to do so would be to cut themselves off from some friends:

With children, in my experience, they don’t tend to speak in Gaelic to each other, I think it’s quite a closed group who can use the language, and they are more inclusive than that. So they don’t tend to use it outwith [the classroom].

However, the children would use Gaelic with adults:

but with ... adults who have Gaelic it’s without a doubt their language choice. If they hear Gaelic, if they pass people speaking Gaelic, they light up, they are delighted to hear it in the real world if you like, which obviously isn’t what they get in [a Lowland area] often.

A common use of Gaelic by children was reported to be as a secret language, as this parent who does not speak Gaelic says of her children:

So they do [speak Gaelic], mainly to take the mickey out of myself and my husband. Or to wind up other friends that don’t speak Gaelic. So they do use it occasionally. So yes they do but not part of every day. But it’s an active decision to exclude other people.

Such a lack of everyday Gaelic-language use by children outwith the school context was also an issue in some Gaelic-speaking areas of the Highlands and Islands, as a parent there noted of her daughter:

She does use the Gaelic, obviously at home because she has been speaking it to her [sister], not so much to me – since she went to high school it’s not been really cool to speak Gaelic at home – but she will still speak to the younger [sister] because she knows that I don’t want her speaking English to her. Because [my older

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daughter] has got plenty English, she is learning more English everyday, I am trying to keep the fluency with the Gaelic.

Several parents reported that there was a particular problem with children tending to make less use of Gaelic as they got older. One parent in a Gaelic-speaking area said that

I do see a big difference once they hit secondary, of course the social circle of friends widens, that being friends that haven't actually gone through the Gaelic medium, who actually don't speak Gaelic. So that being the case I saw a big, big difference there.

A parent in a Lowland area praised the Gaelic-medium primary for having encouraged informal Gaelic-language use, and noted the absence of this in secondary:

I think in primary school they were very much encouraged to use Gaelic all the time in school, you know, they are encouraged to speak Gaelic. They are encouraged even in the playground, although I don't think they really do that, but they are encouraged to speak it the whole time they are in school, in the corridor wherever you are, interacting with each other in the classroom, not just to the teacher. I think they pretty much do that, so that's clearly different to secondary school where they will speak Gaelic only in the Gaelic classroom.

Nevertheless, not everyone was pessimistic regarding pupils' Gaelic-language use. One Lowland parent described Gaelic-medium primary pupils' bilingual play when outside of school:

I've seen them, actually, all playing on the trampoline, and one answers English, and one speaks in Gaelic. It's quite weird. I don't know if they actually realise they're doing that.

Another parent, also from the Lowlands, describes the social contexts in which her primary-aged son uses Gaelic:

He uses it in the school with his friends, and he will use it at home, we will speak Gaelic at home, and with his sister obviously. And he will talk to my dad off and on.

She said that her son's wider Gaelic-language use was still in many instances related to school – 'it's school trips and things now' rather than only the classroom – but she noted him using Gaelic more widely too:

He will speak it in [an island on holiday] as well. If we are walking across a hill and we meet a crofter he will speak Gaelic to them. So he speaks it in [the island] and they are all quite pleased to speak to him, you know. ... [That] makes him feel special and he is proud he speaks Gaelic, and his cousins that actually live in [the island] only ever had Gaelic as a primary school language [as learners], so they wish they had Gaelic medium.

In a Gaelic-speaking area, there are at least some opportunities for Gaelic-language use in the ordinary life of the community. One parent notes of her son:

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He will use it if he is directly spoken to in Gaelic. At the church here, the Sunday School teachers all bar one speak Gaelic, we have a Gaelic service here once a month that he goes to. And we have singing in the church service every Sunday, ... so in the church scene he will hear it and I would say [at] social events connected with the church, people speak to him ... you know, elders at the door would speak to him in Gaelic quite often, and he would speak back to them, but not a huge long conversation I have to say. But with his grandparents sometimes, although I must say they do tend to speak English to him, but he could do that. These will be the main occasions I think.

Cultural events might provide opportunities for Gaelic conversation, as noted by a Gaelic-speaking parent from an area of the Highlands and Islands where little Gaelic is spoken:

Tha sinn dìreach air a bhith ann an Uibhist, ma tha daoine a' bruidhinn Gàidhlig ris, 's e Gàidhlig a bhruidhneas esan riutha agus, ... se pìobaire a th' ann agus ... feadhainn de na pìobairean, tha Gàidhlig aca, agus ... tha e nas fhasa dha on a tha Gàidhlig aige, tuigidh e an ceòl 's an cultar gu math nas fhasa, eil fhios agad, 's ann a tha e nas fhasa dha pàirt a ghabhail ann am fèisean is gnothaichean mar sin.

[We've just been in Uist and if people speak Gaelic to him, he speaks Gaelic to them, ... he's a piper and some of the pipers speak Gaelic and it's easier for him since he speaks Gaelic, he understands the music and the culture much more easily, you know, it's much easier for him to take part in fèisean and things like that.]

A few parents in Gaelic-speaking areas were optimistic about their child's use of Gaelic. One noted that her son who was in Gaelic medium had recently met a boy from another village who also was in Gaelic medium and had talked to her son in Gaelic. She elaborated:

That other boy's mum went to school with me and she was a fluent speaker, and is very much into Gaelic. So that boy's natural, he spoke Gaelic to [my son] but made [my son] speak it back. ... So it was actually encouraging.

One parent, a native Gaelic speaker, believed that, even if the children did not use the language informally now, they would be more likely to do so when they grew up:

Ach airson a bhith a' cleachdadh na Gàidhlig taobh a-staigh na dachaigh, chan eil iad cho deònach sin a dhèanamh agus 's e rud a chluinneas tu gu math tric a tha sin, ach aig deireadh an latha, bidh mise ag ràdh rium fhèin – tha an cànan gu bhith aice agus thig an latha nuair a tha i toilichte gu bheil i aice. Agus tha cuimhne agam fhèin ag èirigh suas ann a[m baile sna h-eileanan] gu robh na pàrantan ag ràdh an aon rud ris a' ghinealach againne. Agus bha iad gu math ceart aig deireadh an latha. Bha.

[But in terms of using Gaelic outside the home, they're not so willing to do that and that's something you hear quite often, but at the end of the day, I say to myself – she's going to have the language and the day will come when she'll be pleased that she has it. And I remember myself growing up in [island Gaelic community]

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that parents would say the same thing to our own generation. And they were quite right at the end of the day. Yes, they were.]

4.4.3 Gaelic ethos and culture

One teacher argued that Gaelic-medium education gave more than exposure to the language; rather, an entire culture was made available to the children: ‘you are buying into a whole thing. It’s a whole way of life.’ Several parents agreed. One, in an area of the Highlands and Islands with little community Gaelic, said that

if you were trying to convince people as to why to do it [Gaelic-medium education], especially when they are in primary school, there are so many other things [the Gaelic-medium pupils] can do like the fèis, you know, through music and drama and acting, you know, there are the Gaelic choirs, there are lots and lots and lots of opportunities for them. They do all seem to be more musical, they will all sing happily, quite often they all play instruments, it seems to be across the board that most of them do – which I don’t think would be the case in an English school – because the emphasis is very much on their [Gaelic] culture and their music. So I think that’s a very positive thing.

A parent in a Lowland school was equally enthusiastic about her child’s Gaelic cultural experiences, drawing a contrast with what she perceives to be the older disparaging attitude in school to Gaelic:

he has had the most fantastic time through connections with Gaelic, I would say that an awful lot of his social life centres round that, and what I would also say is that my best friend comes from Stornoway, [my friend’s] mother taught [my friend’s] two children Gaelic, pre-schoolers, but no way would [my friend] send her children to a Gaelic-medium school because of what she had experienced as [a child] in Stornoway: as soon as she went on to school you had to stop speaking Gaelic, and you got belted if you did.

Many of the Gaelic-medium pupils had developed a cultural allegiance to Gaelic. An example is:

Interviewer	to what extent do you identify with Gaelic?
Respondent:	quite a lot.... Some of the instruments I play, I wouldn’t play them, because it was all because of some people in the Gaelic unit played them and that’s why I started them.

Another pupil linked their cultural association to Gaelic more to informal experiences than to school:

[Gaelic]’s probably part [of me] – yeah, it is because I Highland-dance and it’s Scottish and like my mum and dad own a hotel and it’s all Gaelic people that come in. And I speak Gaelic to them. And it’s good because for the people that come in they are like ‘wow you can speak fluent’, ... and at the Mòds and that I usually do quite well.

4.5 Gaelic learners

4.5.1 Levels of provision

We gathered information in the questionnaire survey of primary and secondary schools about the provision of classes for English-medium pupils who were learning Gaelic as a subject. Of the 29 primary schools which responded to the survey, 22 offered classes for Gaelic learners. These classes were thus available to just under two thirds of all English-medium pupils in our questionnaire sample of schools with a Gaelic-medium stream: that is, Gaelic-learners' lessons were available to 59% of English-medium pupils at Primary 3, 63% at Primary 5 and 64% at Primary 7). Twelve of the 15 responding secondary schools with Gàidhlig for fluent speakers also offer learners' Gaelic. We asked the secondaries about the attainment of pupils learning Gaelic in Secondary 2, using the official three-point scale ('elementary', 'intermediate' and 'level E'). Around three quarters of pupils had reached level E in listening, reading and writing, but only around one half had done so in talking. Almost all of the remaining pupils were judged to be at intermediate level.

Several of the Local-Authority advisers described the origins and development of Gaelic for learners, referring in particular to the value of consortia, either of Local Authorities or of groups of primary schools. The advisers did fear, however, that there was a problem of continuity between primary and secondary for Gaelic learners, one saying, for instance, that 'our problem would be one which exists nationally, and that's in terms of continuity, progression, because they are getting experience of Gaelic learning [at primary school] which isn't translating into the high school.' A primary headteacher in a Gaelic-speaking area similarly thought that the local high school was not building on Gaelic-language learning by English-medium pupils at primary:

there were transfer documents [from the high school] for the Modern Languages department, English department, Gàidhlig department. But nothing for Gaelic learners. And so I sent off to the high school and I said 'I really don't think that's on because every school [in the area] should be offering at least some kind of GLPS [Gaelic Learners in the Primary School], in my opinion certainly and I'm sure at some point there was something [official] released about that. So I found that very frustrating.

A secondary headteacher in an area with high levels of community Gaelic noted the importance of English-medium pupils' learning Gaelic at primary in order to provide a basis for their future learning of Gaelic in secondary school: 'GLPS makes a huge difference. There has been no GLPS for the past two years [at feeder primary] and it shows considerably at Standard Grade'.

There was a widespread belief among our respondents that Gaelic should be taught to English-medium primary pupils more widely than at present. One parent of a Gaelic-medium pupil in an area of the Highlands and Islands that has little community Gaelic mentioned a very commonly expressed reason:

they should do Gaelic in primary so they all learn a bit about the place names. ... As soon as you leave to go out in the hills, all the words are Gaelic names.

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A parent of a pupil in English-medium education in a strongly Gaelic-speaking area suggested that

I think every child should be taught Gaelic. You should have a Gaelic teacher in the school ... who goes round and teaches every class. The [pupils] should be able to read a basic Gaelic book by the time they leave Primary 7. French children, when they leave primary school, have a really good understanding of English. And I think the money that's been pumped into Gaelic-medium education would be better served by teaching each child that amount.

Another parent of an English-medium pupil, from a different Gaelic-speaking area, said that Gaelic is

also part of culture and in [the local] primary it was very evident that there was a lot more money [put] into Gaelic[-medium] education for drama in education which wasn't available in English. And it divided the pupils, and it would have been better to have more interplay and make use of that facility to spread Gaelic among the English medium too.

Most of the parents who proposed extending the learning of Gaelic amongst English-medium pupils believed that this should be across the whole of Scotland. One parent from a Lowland secondary pointed out how natural this is in Ireland: 'I am from an Irish family. And I had actually assumed, wrongly obviously, that ... as in Ireland the teenagers would have to do it'.

Interest in Gaelic as part of Scotland's culture was also expressed by English-medium pupils. One wanted to learn Gaelic 'because it's the Scottish language', and would prefer to study Gaelic than French because 'Gaelic's Scottish but French is foreign and it's easier to understand Gaelic.' Another identified with Gaelic 'because it's ... Scotland's sort of language'. A third said that 'I'm Scottish and sort of Gaelic is our native language.' Some English-medium pupils were committed to Gaelic-language revitalisation: speaking the language, one said, 'keeps it alive', and he would like to 'help other people learn it.' A few English-medium pupils invoked family heritage in much the same way as some Gaelic-medium pupils and their parents did:

I quite enjoy Gaelic because it's something that not many people can do. And a lot of people moan about it saying 'oh I hate Gaelic and stuff'. But I quite like it because some of my family speak it. So it would be a bit of a shame if it just went out altogether.

Some Gaelic-medium pupils extended their enthusiasm for the Gaelic language into believing that all pupils in their school should learn it. They offered two reasons. One was that Gaelic is part of Scotland's heritage – to 'see what the language of Scotland was like'. The other was in order to strengthen Gaelic: 'I guess it's quite good that ... other people could learn Gaelic so it's a stronger language.'

4.5.2 Context of provision

Several parents suggested that there would be many ways in which Gaelic could be taught in quite informal contexts. A parent of a pupil in English medium at a

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secondary school in an area of the Highlands and Islands where there is little community Gaelic said that

I think it [Gaelic culture] should be available to everybody, to enjoy the Gaelic culture, because it's a heritage we all share. ... [The school should] teach our heritage, our Gaelic heritage and culture and the language.

Some parents would prefer for these informal Gaelic-learning opportunities to exist in addition to the formal curriculum, such as in a comment by a parent of a child in a Gaelic-medium primary stream in the Lowlands:

I almost think it would have been better had they provided Gaelic as a two nights after school club for [English-medium] children, rather than even trying to fit it in to the daytime curriculum because by doing that they are taking them out of other classes.

An English-medium pupil who was learning Gaelic saw opportunities to use her developing Gaelic-language skills informally: 'I think it'd be good because then I could like talk to my [grandmother] in her language.'

Some parents of English-medium pupils had similar attitudes to their child's learning of Gaelic to those we reported in Section 4.1.2.1 in connection with the perceived cognitive benefits of bilingualism. One parent of an English-medium pupil in a secondary school in an area with some community Gaelic said that

some people may say you've got to learn French. But you may never go to France. It's really the whole mind-broadening thing of just learning another language. Doesn't, in a way, really matter which one it is to me.

The parent of a pupil in English medium at a Lowland secondary said that

I would like to see Modern Languages come in right at nursery stage. ... I would like to see language being introduced gradually, for them to be given [a choice as] to which language they [learn], whether that's Gaelic or Italian or Spanish or German or French, whatever. ... Because I think they learn their language much easier when they're younger than they do in Primary 6 even.

Parents who took this view would then have to ask the question whether Gaelic was as valuable to learn as other languages. English-speaking parents in mainly Anglophone communities did tend to see Gaelic as a foreign language. Nevertheless, the argument for its being part of Scottish culture was sometimes invoked to defend a special place for Gaelic:

if it was a choice between that [Gaelic] and another foreign language if you like, I probably would have not gone for Gaelic. I think probably because it's not as widely spoken a language as the others that they could have learned, but I think if as part of the Scottish education system you could include something about Gaelic then that's a positive I think, because it's part of the culture of the country.

5. Conclusions

We draw conclusions under three headings, on methods, attainment and choice. Our main methodological recommendations (Section 5.1) relate to the measurement and understanding of attainment in Gaelic-medium education, but we also propose ways in which interviews might add to the understanding of pupils' attainment there and might contribute to the design of statistical surveys. We then draw substantive conclusions relating to attainment (Section 5.2) and to the reasons why parents choose or do not choose to place their children in Gaelic-medium streams, decisions that, by secondary school, often involved the children as well (Section 5.3).

5.1 Methodological conclusions

5.1.1 Surveys

This report used several sources of data to investigate a variety of dimensions of attainment in Gaelic-medium education in comparison to English-medium education. The principal source was the Scottish Survey of Achievement of 2007, the Scottish Government's instrument for monitoring attainment in Scottish schools between ages 5 and 14. The survey was conducted to very high technical standards with a large sample size, and so is the best means available for investigating attainment by English-medium pupils. The parallel Survey of Gaelic Education in 2007, covering Primary 5 and Primary 7 with broadly the same design and to the same quality as the SSA, provided as reliable a means as could be available (in a single year) for investigating Gaelic-medium pupils. These surveys allowed us to compare Gaelic-medium pupils with three groups of English-medium pupils: all pupils across Scotland, pupils in a sample that had been matched in certain demographic characteristics with the Gaelic-medium sample, and pupils in some of the same schools as contained Gaelic-medium streams. We followed the recommendation of Baker (1990) to use multi-level modelling in research on this topic.

Because the Scottish Survey of Achievement is the direct successor to the Assessment of Achievement Programme (AAP), moreover, our use of it also provides some continuity with the previous study of attainment in Gaelic education (Johnstone et al, 1999) which used the AAP. The Survey of Gaelic Education carried out by government statisticians in 2007 provided a version of the survey of Gaelic-medium pupils' attainment which Johnstone et al had to carry out themselves. The 2007 Gaelic Survey had the great strength for our purposes of having been carried out in parallel with and using the same methods as the SSA. We supplemented these sources with a special survey of primary schools that contained Gaelic-medium streams, and of secondary schools that taught Gàidhlig for fluent speakers in 2009-10; this allowed us to extend the analysis (in some respects) to Primary 3 and to Secondary 2, and also provided a different source of information about the two stages covered in the SSA and the Gaelic Survey. We also drew on interviews in 2009-10 with parents, headteachers and Local-Authority advisers, and with interviews conducted in 2007-8 with pupils and teachers, in order to cast light on the statistical findings on attainment.

However, there were also limitations in the data that we used. Even though the SSA Gaelic Survey covered all Gaelic-medium pupils in Primary 5 and Primary 7, its

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total sample size of around 300 pupils was small by the standards of social surveys. Only repeated surveys over several years could overcome this limitation entailed by the small size of the sector itself. One of our comparison groups – of English-medium pupils in schools with Gaelic streams – was from a single Local-Authority area, Highland, which, although diverse, does not cover all the contexts in which Gaelic-medium education takes place. These surveys were not properly longitudinal, in the sense of following up the same pupils over a period of time; the best measures of progress in education require a longitudinal design. The analysis by Johnstone et al (1999) did incorporate a longitudinal element insofar as the same cohort of children was observed over several years, but it too did not have any data that were longitudinal at the pupil level.

Our measures of attainment themselves were not as uniformly valid across all subjects of study as ideally would be preferred, because objective testing was used only in the main topic of the 2007 surveys, science. For other subjects, the information about attainment came from teachers' judgements of pupils' attainment, which are known from the Scottish Survey of Achievement to be over-optimistic.

Although the measure of social deprivation provides some broad control for the cultural resources which pupils acquire from their families, a serious deficiency was that it was dichotomous, recording only whether or not the pupil lived in the 20% most deprived areas. Moreover, the surveys had no information on pupils' ability or attainment upon entering school (or upon entering Gaelic medium), and so we cannot make any strong statements as to whether being in Gaelic medium has a causal effect on pupils' attainment. We also did not have any information on whether the Gaelic-medium pupils spoke Gaelic in their homes or their communities, and so we cannot assess the distinct contribution which the schools might have made to their linguistic attainment. This is a serious omission, because Stradling and MacNeill (2000) found that home and community language was important to children's use of Gaelic.

Therefore we would recommend that, to improve the quality of future statistical analysis of attainment in Gaelic-medium education, six principles should be adhered to in the design of the Scottish Survey of Achievement. These would help to achieve one of the aims of Bòrd na Gàidhlig's National Plan for Gaelic, the 'wider dissemination of national Gaelic attainment statistics' (Bòrd na Gàidhlig, 2007, p. 62):

- Conducting a Survey of Gaelic-Medium Education should become a routine part of the Scottish Survey of Achievement, so that domains of study other than science might be assessed by formal tests in addition to teacher judgements. The remaining five principles should apply to this expanded survey.
- The SSA should allow the linking of pupils with the teacher-questionnaire data from their own main class teacher, so that teachers' views and experience might be incorporated at the individual-pupil level into models of pupil attainment.
- All Local Authorities which offer Gaelic-medium education should take the option of having a large enough sample size of their English-medium pupils in the SSA for Local-Authority-level reporting on Gaelic-medium and

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English-medium pupils in that Authority to be reliable. This would ensure that there were adequate sample sizes of English-medium pupils in schools with Gaelic-medium streams.

- The measurement of social deprivation should be recorded in a more finely graded form than the dichotomy that was available to us.
- The SSA should record information about pupils' home language or languages (whether Gaelic and English or other languages).
- The SSA should become a longitudinal study in the sense of following up the same pupils over several years, preferably right through to the end of their schooling. Only in this way might pupil progress be measured reliably. As part of this, there should be baseline measures of pupil ability on entering school.

5.1.2 Interviews

There are also methodological conclusions to be drawn from the interviews which we carried out:

- The analysis of attainment which we undertook benefited from our being able to draw upon the interviews with parents, headteachers and Local-Authority advisers that were part of the present project and also the interviews with pupils and class teachers which had been carried out for a previous project. We recommend that research on Gaelic-medium education should seek the views of pupils where appropriate.
- We have not been able to investigate the community context in which Gaelic-medium education takes places, and yet many respondents (as we noted) explained the importance of encouraging everyday and informal use of the Gaelic language. Future research should undertake interviews and other forms of data collection to understand how Gaelic-medium education might draw from and contribute to Gaelic in the community. One model for this is the research which Galloway (2006) undertook for Highland Council: for each community where Gaelic-medium primary-school education is provided, he documented local Gaelic resources, such as the proportion of the local population who could understand Gaelic, the incidence of fèisean, mòds and sradagan, and the presence of local cultural leaders with expertise in Gaelic.
- Interview data as well as survey data ought to be longitudinal in order to give added insights into children's developing attitudes to their languages. This should ideally begin at the start of primary school and continue throughout the pupils' school career.
- Interview data should be used to inform the design of statistical surveys. For example, the data which we have reported here might be used to design surveys of attitudes to Gaelic and to Gaelic-medium education. Such surveys might be of the general population, of parents, of teachers, or of pupils. Indeed, incorporating questions about attitudes to Gaelic into the

Scottish Survey of Achievement would enrich the statistical data on attainment and would add to the other questions about pupils' attitudes to learning that are routinely included in that survey.

5.2 Substantive conclusions: attainment

Despite the need for better and more regular data, the main findings of our research do cast light on the experiences and outcomes of Gaelic-medium education. Pupils in Gaelic-medium streams are more likely to be female and less likely to be living in deprived social circumstances than the average Scottish pupil. The contrast in social circumstances is a characteristic of the schools in which Gaelic streams are situated, not a differentiating factor between the Gaelic and English-medium streams in these schools: the schools in which Gaelic-medium streams exist are predominantly rural, whereas the most acute social deprivation is in urban areas. In Primary 3, attainment in English is lower among Gaelic-medium pupils than among English-medium pupils, but this gap has disappeared by Primary 5, and by then and in Primary 7 and Secondary 2 Gaelic-medium pupils may in fact be ahead in English reading. There is some evidence, too, that Gaelic-medium pupils are ahead of English-medium pupils in science in Primary 5, and perhaps in Primary 7, although this may be a consequence of the Gaelic-medium pupils' being in schools with relatively high science attainment, rather than being a contrast between Gaelic-medium and English-medium streams in the same school.

Apart from at Primary 3, there is no evidence on any subject domain or at any stage that Gaelic-medium pupils have lower attainment than English-medium pupils, and their learning through another language does not seem to detract from their attainment across the other main areas of the curriculum. Indeed, in acquiring this other language, or, in the case of children who also speak Gaelic at home, consolidating and developing their Gaelic, Gaelic-medium pupils have broader attainment than their English-medium counterparts. However, by Primary 7 attainment in Gaelic among Gaelic-medium pupils has fallen behind their attainment in English, especially in reading.

Pupils in Gaelic-medium education were less confident in science (the subject area which was measured in the 2007 survey) than English-medium pupils, even compared with English-medium pupils in the same school. They were less engaged with scientific content than English-medium pupils, but this was probably a feature of the schools in which the Gaelic-medium streams were located rather than of the Gaelic-medium stream itself. However, Gaelic-medium pupils' attainment in science, as we have noted, does not seem to suffer. Gaelic-medium pupils also reported that their teachers were highly engaged with teaching science, more so than was reported by their English-medium counterparts about their teachers, but again this was a feature of schools rather than of streams within schools (as discussed in connection with Table 15). Teachers of Gaelic-medium streams were less experienced than the average across Scotland, and they thought more highly of their pupils.

In none of these respects is there any evidence of systematic geographical variation in the characteristics or attainment of Gaelic-medium pupils or schools: the differences were due to Gaelic-medium streams or to schools, not to council policies or other broad features of the areas in which Gaelic-medium education takes place.

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These conclusions are consistent with previous findings about Gaelic-medium education in Scotland. Like Johnstone et al (1999), we found that children in Gaelic-medium education were not disadvantaged in their attainment in English or mathematics, certainly after the very early years, and that, by Primary 7, they may have higher attainment in English reading than English-medium pupils. Unlike the results of that earlier research, we concluded that the Gaelic-medium pupils were also not disadvantaged in science, but that Gaelic-medium pupils do not have higher attainment than English-medium pupils in mathematics. Our conclusions concurred with those of Johnstone et al in finding that pupils in Gaelic medium had, by Primary 7, lower attainment in Gaelic than in English. Unlike Johnstone et al (1999) we found that gender differences in attainment were the same in Gaelic-medium and English-medium education.

Much of this is consistent, then, with Gorard's point about Welsh-medium education (but relating only to Rhondda Cynon Taf), that it is not really systematically better or worse than English-medium education in those curricular areas which the two streams share (Gorard, 2000). The pupils in Gaelic medium gained an additional language, or developed their home language, apparently without harming their attainment in other subject domains. We found, as did Reynolds et al (1998) for Welsh-medium education, that in some respects the ethos in Gaelic-medium education was more conducive to high attainment than that in English-medium education, insofar as Gaelic-medium pupils reported that teachers were more actively engaged with learning and teachers reported a more positive view of their pupils. However, we also found that Gaelic-medium pupils were less confident (in science) than English-medium pupils, that they engaged less with scientific content, and that their teachers had less experience of teaching in general. Mac Nia (2002, p. 101) similarly noted that teachers in Irish-medium education in Northern Ireland are also relatively inexperienced as compared with their English-medium counterparts.

Attainment in Gaelic-medium education may thus be seen as an instance of the general effects of early immersion education, described by Johnstone (2002, p. 2):

[Immersion pupils] are not disadvantaged in their attainments in their L1 [first language, here English] or in school subjects, e.g. mathematics, science, social studies. Immersion pupils tend to be behind their mainstream L1 [English-medium] counterparts to begin with in their mother tongue, including literacy. However, when language arts in L1 are introduced ... , then immersion pupils quickly catch up and in cases tend to surpass their L1 counterparts in respect of L1 reading and writing.

In short, 'where immersion is introduced to young children, ... pupils tend to make more rapid progress than monolingual children in developing metalinguistic awareness and an analytical approach to language'.

5.3 Substantive conclusions: choice, provision and purpose

There are two main sets of reasons why people choose Gaelic-medium education, according to pupils, parents, headteachers and Local-Authority advisers. One relates to heritage, whether of family, locality or Scotland. These three levels of allegiance to

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Gaelic could exist together, reinforcing each other and creating a sense of loyalty to the language and commitment to its regeneration.

The second set of reasons for choosing Gaelic-medium education was connected to the perceived benefits of bilingualism, and was often based upon knowledge of research that demonstrates a connection between cognitive development and bilingualism, or specifically between bilingualism and learning further languages. This was consistent with the findings of previous research. Being able to interpret the world through two languages was also believed to encourage respect for cultural diversity. This set of motives based on the perceived benefits of bilingualism was not necessarily linked to Gaelic specifically, but, because the heritage and bilingualism motives often co-existed, there was usually also a sense among the people we interviewed that the most appropriate form of bilingualism for children in Scotland was that which is represented in Gaelic-medium education. Continuing from Gaelic-medium primary education into taking Gàidhlig in secondary, and such subjects through the medium of Gaelic as were available, was largely a matter of inertia, of not wanting to waste the work that had already been done.

The association between choosing Gaelic medium and either a family tradition of Gaelic or a view of the importance of Gaelic to Scottish culture was consistent with the small body of previous research on such choices (MacNeill, 1993; Roberts 1991; Stephen et al, 2010; Stockdale et al, 2003; Johnstone et al, 1999), and with motives found in Wales (Packer and Campbell, 1997). However, the emphasis placed on bilingualism as a reason for choice may be stronger for Gaelic than in the analogous research on Welsh, and the first motive – attachment to community – correspondingly somewhat weaker.

Alongside these dominant motives were also various other, more incidental rationales – notably a sense that the school where Gaelic-medium education was provided was a generally good school, and the belief that Gaelic-medium education might be effective because its classes tended to be small, although this latter reason was also seen to be less cogent now that Gaelic-medium classes are growing as a consequence of Gaelic-medium education's becoming more popular. Of course, the quality of the school and the presence of a Gaelic-medium stream are not independent of each other. In some places, a Gaelic-medium stream had been put in a school with a long-standing reputation for high quality. It is also quite possible that the very existence of a Gaelic unit might contribute to enhancing the general quality of the school, but this present study has not been designed to assess that possibility.

Many respondents believed that well-educated parents, and thus middle-class parents, were more likely to choose Gaelic medium than others. This was consistent with the evidence from the Scottish Survey of Achievement on the social characteristics of pupils in Gaelic medium, and also with previous research on the factors associated with choosing Gaelic medium (Stockdale et al, 2003). As in that previous research, too, our study also provides evidence that some migrants into the Highlands and Islands saw Gaelic medium as a way of integrating into the community, although other migrants did not see the language in this way.

Choice against Gaelic medium, by contrast, was attributable to more diverse motives. A common one was fear by parents who could not speak Gaelic that they would not be able to help their children with homework. There was also another

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version of the heritage argument – that Gaelic was not part of the parents' family traditions. In the Gaelic-speaking areas, there was some evidence that people who had grown up there not speaking Gaelic were somewhat hostile to Gaelic medium, as also found in the research by Stockdale et al (2003). Some parents believed that education was not the means to revive the language. There was also some sense, although from only a minority of parents, that Gaelic-medium education is divisive, because of the money spent on it and because of the segregation which it was perceived to create in schools. However, many other parents of English-medium pupils welcomed the cultural diversity which the Gaelic-medium stream brought to the school, and would like more opportunities for their children to learn Gaelic at school. There were several examples of good relationships between the Gaelic and English streams of the schools, with Gaelic contributing strongly to the school's overall ethos.

There was recognition by parents who wanted Gaelic-medium education to be more widely available that finding suitable teaching staff was difficult, especially at secondary-school level. But several parents, even among those committed to Gaelic medium, did not want Gaelic to be the medium of education in all subjects at secondary: it was often said that the sciences might be better taught in English, and that Gaelic was best suited to the social subjects. There was appreciation of the importance of informal contexts for children to use Gaelic, such as in cultural events or with members of the Gaelic community, and there was a widespread desire for these opportunities to be sustained and developed. Most respondents recognised the importance of encouraging children to use Gaelic outwith school, but most also saw the great difficulty in doing this, even in communities where Gaelic is spoken and even where the child has Gaelic at home. In contrast to the findings by Roberts (1991) from the late 1980s in the Western Isles, those who were in favour of Gaelic learning in informal contexts tended also to see value in Gaelic-medium education: thus it may be that we are seeing the breaking down of some of the old dichotomies of pedagogical approach in relation to the acquisition of Gaelic.

Many respondents would like English-medium pupils to have more opportunities to learn Gaelic than are available at present, and some would like all pupils in Scotland to study the language. The reasons given were mostly cultural – that the language is an important part of Scotland's heritage, or that it gives access to an understanding of Scottish topography and history through the development of a better understanding of place names. Some parents also believed that learning a language at any level could aid cognitive development.

In short, Gaelic medium is chosen for its capacity to enrich the culture of its pupils as well as for its general cognitive benefits. The evidence here on attainment justifies the perception that it broadens pupils' learning, in that it develops their competence in the Gaelic language without harming their attainment in other subjects. Our evidence would therefore be consistent with the conclusion reached by Nicolson and MacIver in 2003 that 'Gaelic-medium education has been one of the success stories of recent Scottish education' (Nicolson and MacIver, 2003, p. 70).

Appendix 1: Research Specification

In commissioning the research, Bòrd na Gàidhlig requested

- (a) A review of, and update on, information on pupil attainment in Gaelic in schools in Scotland (specifying that the research should compare its findings with those of Johnstone et al (1999)).
- (b) An extension of data into previously unresearched areas.

The Bòrd also posed the following questions:

- ‘Question 1 Do the attainments of pupils receiving Gaelic-medium primary education match or exceed national attainment targets in Gaelic at P3 and P5, and in Gaelic and English at P7?’
- ‘Question 2 How do the attainments of pupils in Gaelic-medium primary education in mathematics and Environmental Studies (science) compare with attainment targets at the levels of the school, the Local Authority and Scotland as a whole?’
- ‘Question 3 What contextual factors in the home, school or community are perceived by parents, headteachers and representatives of Local Authorities as influencing pupils’ progress and attainments in Gaelic-medium and English-medium education at primary school?’
- ‘Question 4 What contextual factors in the home, school or community are perceived by parents, headteachers and representatives of Local Authorities as influencing intake of pupils into Gaelic-medium primary education?’
- ‘Question 5 What contextual factors in the home, school or community are perceived by parents, headteachers and representatives of Local Authorities as influencing progression of pupils into Gaelic-medium secondary education courses and providing schools?’

Questions 1 to 3 and points (a) and (b) are the subject of Section 3 of this report; Questions 4 and 5 are dealt with in Section 4.

Appendix 2: Outline of Statistical Models

The dependent variable y_{ij} refers to pupil i in school j . In a linear multi-level model (such as in Table 12), the dependent variable is expressed in the usual way as a regression function of several explanatory variables and also an error term. The regression function may be written:

$$y_{ij} = b_0 + b_1x_{1ij} + b_2x_{2ij} + \dots$$

where the b values are regression coefficients to be estimated, and the x values are the explanatory variables. Here the explanatory variables are, for example, gender, social deprivation and school ethos. The main explanatory variable for our purposes is a dichotomous indicator of whether or not a pupil is in Gaelic-medium education:

$$x_{1ij} = 1 \text{ if pupil } i \text{ in school } j \text{ is in Gaelic-medium education;}$$

$$x_{1ij} = 0 \text{ if pupil } i \text{ in school } j \text{ is in English-medium education.}$$

Then the regression coefficient of x_1 (namely b_1) estimates the average difference in the dependent variable y between the Gaelic-medium and English-medium streams, holding constant whatever other explanatory variable or variables that we have specified in the model. For example, if a measure of social deprivation was entered as an explanatory variable in the model, we would then be estimating what the difference in attainment would be between the Gaelic-medium and English-medium streams if they contained the same level of social deprivation.

The error structure of the model is composed of two terms:

$$u_j + e_{ij}$$

where e_{ij} varies among pupils and u_j varies among schools but is constant for all pupils in school j . The presence of u_j allows the y -values for all the pupils in school j to be correlated with each other, and thus is the way in which the clustered nature of the data (pupils within schools) is represented in the model. For example, the full model with two explanatory variables would be:

$$y_{ij} = b_0 + b_1x_{1ij} + b_2x_{2ij} + u_j + e_{ij}$$

Most of our models are not of this linear form, because the dependent variable is dichotomous, for example passing or not passing a certain test. This situation is handled by a multi-level logistic regression. Suppose that the dependent variable y_{ij} has value 1 if pupil i in school j passes the test, and 0 if not. Then the model estimates the probability p_{ij} that the pupil passes, but does this through the logistic transformation:

$$\log(p_{ij}/(1-p_{ij})) = b_0 + b_1x_{1ij} + b_2x_{2ij} + u_j$$

In a logistic model, there is no separate error term at the individual (pupil) level because the random component of a binomial distribution is a direct function of the proportion p_{ij} .

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The data on attainment from the questionnaires which we sent to schools is reported mainly as proportions of pupils who passed specified levels in the 5-14 assessment arrangements. The main interest here is in comparing attainment in the Gaelic-medium and English-medium streams. The strength of the evidence is measured by estimating the standard errors of the logistic transformation of these proportions using a variance decomposition of proportions nested within schools. This was represented as a two-level logistic model as above.

The multi-level modelling was carried out using the statistical software MLwiN (Rabart et al, 2009).

Appendix 3: School Ethos

School ethos is measured by scales that group items from Section B of the pupil questionnaires and from Sections A, B, C and E of the teacher questionnaires from the Scottish Survey of Achievement and the Survey of Gaelic Education. The questionnaire items are described fully in the official reports of the surveys (Scottish Government, 2008, 2009). The ethos scales are constructed in two steps. First, for each item in the questionnaire, the responses are scored from 1 reading from the left of the response grids in the questionnaire (illustrated in these reports; this scoring is how the data from the survey have been recorded by the Scottish Government statisticians). Then the value of the scale is calculated by summing across the scored items in the scale. For all but one of the scales (teacher experience), the resulting values have been reversed to make their interpretation more intuitively appealing – for example, so that a high value means greater pupil confidence. The items contained within each scale were chosen on the basis of their content: that is, for each scale, items were chosen that seemed to relate to the concept embodied in the short title of the scale given below. Where there was any ambiguity regarding this, in the sense that an item could have been placed in more than one scale, it was located in that scale where it had the higher correlation with the mean of the other items in the scale.

For each scale, the short title is followed by an indication of the direction in which the values of the scale run. There then follows a list of the questionnaire items which constitute the scale – the question number and a short description. A star against the scale name indicates that there was evidence at the 10% level of significance that the scale mean differed between Gaelic-medium and English-medium pupils (for pupil scales) or between schools with and without Gaelic-medium streams (teacher scales): see main text, Tables 15 and 16. The reliabilities of the scales are given after the title. These are measured by the value of α , which is the average correlation among the items which constitute the scale, and may be interpreted as the extent to which the items measure the same underlying construct; the maximum value α may take is 1, with reliability increasing as the value moves towards 1.

Pupils

(1) Administration of classes (high = well-administered); $\alpha = 0.41$

- B1: frequency of science classes
- B17: grading of pupils' work
- B18: formative assessment
- B20: regular homework

(2) Pupil engagement with content (high = pupil is enthusiastic); $\alpha = 0.69$

- B2: interesting topics
- B8: lessons too slow
- B31: want to do well
- B32: class settles down quickly
- B33: finishes work on time

B34: easy to concentrate
B35: enjoy science
B36: enjoy books about science

**(3) Pupil confidence (high = high confidence); $\alpha = 0.75$*

B23: in experiments and learning
B24: talking to teacher
B25: talking in small groups
B26: talking to class
B27: talking to other adults

(4) Pupil learning style (high = active); $\alpha = 0.67$

B4: discuss ideas
B5: talk with other children
B7: find out own answers
B10: have to explain answers
B15: discuss findings of experiments with other pupils
B21: computer in classroom
B22: everyone can say what they think
B28: expected to work hard
B37: computer at home

**(5) What is to be learnt (high = engagement with science); $\alpha = 0.69$*

B11: carry out experiments
B12: plan experiments
B13: predict results
B14: solve problems
B19: everyday uses of science
B29: facts
B30: science in the news

**(6) Teacher (high = teacher engaged with pupils); $\alpha = 0.53$*

B3: pupils talk to teacher
B6: teacher helps to understand
B9: teacher gives extra help
B16: teacher explains lesson in advance

Teachers

**(1) Teacher experience (high = a lot); $\alpha = 0.62$*

A2a: length of time teaching
A2b: length of time in present post
A6a: amount of professional development

(2) *Teacher engagement with pupils (high = a lot); $\alpha = 0.72$*

B2: formative assessment

B3: personal learning plans

B5: classwork and homework

B6a to B6g: forms of assessment (oral testing, written testing, written classwork, observing group discussions, observing experiments, informal discourse, whole class discussion)

*(3) *Teacher view of pupils (high = good); $\alpha = 0.77$*

B1a: motivation

B1b: behaviour

B1c: attendance

(4) *Teacher confidence (high = confident); $\alpha = 0.74$*

A5a: biology

A5b: chemistry

A5c: physics

(5) *Teaching style (high = class is engaged); $\alpha = 0.59$*

C1: pupils talk to teacher

C2: pupils work with each other

C12: pupils talk to visitors

C13: teacher talks to whole class

C14: pupils work quietly on own

C15: pupils work at computer

C16: pupils write in own words

C21: copying down information

(6) *Class sources of information (high = a lot); $\alpha = 0.38$*

C3: textbooks etc

C4: worksheets

C8: DVDs etc

(7) *Scientific work by class (high = a lot); $\alpha = 0.75$*

C5: diagrams

C6: tables and charts

C7: investigations

C9: using science equipment

C10: interactive whiteboard

C11: making things

C17: working in school grounds

C18: visiting science centres etc

C19: discuss everyday uses of science

C20: handling real objects

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(8) Pupil use of Gaelic (high = often); $\alpha = 0.98$

E1a: listen

E1b: talk

E1c: read

E1d: write

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