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Early Intervention in Gaelic-medium Education: Creating and Evaluating a Tool
for Assessing Phonological Awareness

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I would also like to thank my family for their forbearance over the past five years.

"There was a lack of suitable resources to assess and diagnose the difficulties of pupils whose general and Gaelic learning needs were more challenging. Most typically, teachers felt unable to ascertain whether any difficulties that arose were related to the fact that the child was learning a second language or whether the difficulties were more fundamental and would have emerged in the context of their first language. In many instances, teachers reported that external support professionals had little or no expertise in Gaelic-medium education or the issues pertaining to it. Some authorities had taken a clearer lead in addressing this area. For example, one authority had adapted nationally-available English-medium materials to assess pupils' learning difficulties and cognitive development for Gaelic-medium purposes. Others needed to do more."
Her Majesty's Inspectorate of Education (2005, p. 26)

'Improving Achievement in Gaelic'

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Abstract

This study investigated whether phonological awareness of pupils in the immersion stage of Gaelic-medium education in Scotland could be measured using an assessment tool, which does not replace subjective teacher observation, but provides objective evidence. The research data was collected in four phases. Initially an audit was made of English tests of phonological awareness that are currently available and used widely in the UK, in order to find suitable subtests. Many Gaelic-medium units are small, often with composite classes and few Support for Learning Teachers. Therefore, to explore the issues around measuring phonological awareness in Gaelic, it was necessary to create an assessment tool to be used by Classroom Teachers.

In the second phase, the test was administered to 368 pupils in Primary 2 and 3 of these units/schools by Gaelic-medium teachers. The results were analysed to see what aspects of phonological awareness could be measured in Gaelic and if there was sufficient information to create a diagnostic tool for identifying pupils' phonological weaknesses. The third phase involved analysing the results of the questionnaires that were completed by the teachers who had administered the test. Finally, a third of the respondents volunteered to complete semi-structured interviews by telephone, to gather fuller views and experiences of the Gaelic-medium teachers.

Evidence of the development of Gaelic-medium learners' phonological awareness was obtained. Findings point to similarities in English in most aspects of phonological awareness; however, rhyming in Gaelic appears to be a poor indicator of phonological ability. The study suggests that phonological awareness in Gaelic develops with age. Following stringent analysis of the data, the instrument that was devised can provide a diagnostic profile of a pupil's phonological awareness in Gaelic. This research took a pioneering approach to the study of prevention of reading failure and has implications for assessment, identifying pupils' progress and planning intervention for teachers in Gaelic-medium education, and has implications for teachers in other similar languages, such as Irish, or for teachers teaching bilingual pupils.

Chapter 1: Introduction

Gaelic is the ancient indigenous language of Scotland. For many years it was suppressed by the establishment and ignored in educational circles until the latter part of the twentieth century when there has been a renewed interest in preserving the language, the touchstone of Scottish culture. Bilingual education programmes in the United States and Canada are likely to be in a language that is the major second language in the country of origin but this is not the case with Gaelic. Gaelic is now only spoken by a minority of the population in the Western Isles, in some areas of the Western Highlands and in central urban areas around Glasgow and Edinburgh. 1.9 % of the population, 92,400 people, had some Gaelic ability at the 2001 Census. This is an exciting and challenging period in Gaelic-medium education when an increase in the number of Scottish Gaelic speakers is fundamental to the development of the Gaelic language in Scotland. There has been considerable research on socio-linguistic and other topics involving Gaelic through Celtic departments of Scottish universities, the School of Scottish Studies in Edinburgh and Lèirsinn at Sabhal Mòr, to name a few, and some of these are referred to in Chapter 5, but only a small number of studies pertain solely to Gaelic-medium education. It has been recognised for some time now (Robertson, 2006; The Highland Council, 2002) that the future of the Gaelic language in Scotland lies in developing the education of children in the language and encouraging a robust support structure within the community and media. The Taskforce on Public Funding of Gaelic (2000) reported that there was an educational deficit in Gaelic-medium education that was compounded by a shortfall in the Inspectorate, by lack of training and in-service provision, and by lack of awareness and promotion of the value of bilingual education. An Comunn Gaidhlealach (2004) carried out a membership study in which its respondents saw the survival of the Gaelic language as dependent on Gaelic education. Members believed the following to be important areas for development: Gaelic-medium education; Gaelic as a subject in schools; the provision of teachers; nursery provision and liaison with local councils.

I have been involved in Gaelic-medium education since its inception in Scotland, teaching in nursery, primary and secondary Gaelic-medium schools and have been concerned with additional support needs for some time. A member of my family was identified as being dyslexic, having struggled through seven years of Gaelic-medium primary education. At that point it was clear to me that Gaelic-medium pupils who might be at risk of having difficulties learning to read and spell should be identified early on in their school career. In the English-medium classroom, provision is made for this identification by means of baseline screening* as shall be discussed in Chapter 4. There must be a suitable means of identifying these needs as early as possible. A diverse range of assessments and observations should be used so that an individual should not be disadvantaged although identification of a difficulty is much more than selecting and administering a test. Similarly, the whole process entails much more than one individual, be it specialist or Educational Psychologist, making an assessment. Each school must have some staged intervention or process for assessing pupils whose learning is causing concern and staff should have awareness of and training in the procedures to be followed. A clear structure should support staff in implementing various steps in the process. Children facing a barrier to learning are entitled to have their additional support needs[1] identified and addressed. Equally, the assessment process should play a positive role in a child's education.

At the Meuran National Gaelic Conference 2009, in Inverness, Graham Donaldson, Senior Chief Inspector of Her Majesty's Inspectorate of Education (HMIE) stated that it was important that Scotland's education system was as inclusive as possible. This came seven years after his opening speech at the first Gaelic Teachers' Conference, A' Chuisle, in Nairn (Donaldson, 2002, p. 1) when he stated that that event would "address aspects of the provision of learning support in Gaelic-medium education". This study gives an opportunity to extend previous research (Lyon, 2003) which examined present procedures for identification of pupils with possible reading delay or difficulties developing phonological skills in Gaelic in the immersion stage of Gaelic-medium education. As a Chartered teacher[2], I try to comply with the

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[1] A Scottish term for pupils requiring extra support with their education.

[2] In Scotland, unpromoted teachers can gain Chartered Teacher status through further study.

Teachers' Agreement for the 21st Century (Scottish Executive Education Department [SEED], 2001, Annex D) which stated: "Chartered Teachers should demonstrate the capacity to contribute to the professional development of colleagues and to make a full contribution to the educational effectiveness of the school and the wider community". Thus, this study will raise teacher awareness of the importance of phonological awareness* and of the need to identify pupils with possible reading delay or difficulties developing phonological skills as early as possible. A glossary of terms follows the conclusion on page 252 and items included are marked with an asterisk.

It is important to identify any additional support needs a child might have in literacy at an early stage so that appropriate support can be given to avoid problems later on in his/her education. It is hard to identify a child with a language disability, in a Gaelic-medium setting, and decide whether the difficulties exist with the second language alone or whether a similar difficulty exists in the first language[3] as discussed in Chapter 2.6. The recent introduction of Early Intervention in Scotland, to improve reading at the early stages, did not reach the Gaelic-medium classroom. The aim of early intervention is to reduce the number of children who struggle with language two as well as language one. Early intervention has the benefit of remediation at the early stages of language acquisition, in the first years of primary education, when a child's learning needs should be identified early, according to Reid (2003). The lack of relevant assessment material in Gaelic, to identify these needs early, at present makes it hard for teachers to gauge reading readiness and literacy progress. MacLeod and MacLeod (2001, p. 13) stated that teachers "had concerns that "time may be lost" as a result of not having such tools in order to diagnose difficulties more accurately earlier."

The intention of this research is to take forward the research of Donaldson, Gillies and Reid (1997) who found that there was a pressing practical need for information about the stages which children go through when learning the Gaelic language. The

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[3] Here 'first language' refers to English, as the majority of Gaelic-medium pupils are learners of Gaelic.

results of their research showed that there was a need to develop assessment and intervention procedures for children learning Gaelic but whose language development was causing concern. Following their findings, it was hoped to move some way towards developing standardised assessment tools such as those recommended by MacLeod and MacLeod (2001). The purpose of this study is to find out how to measure the phonological awareness of pupils in the immersion stage of Gaelic-medium education and to identify the difficulties that arise in creating an assessment tool for pupils early on in their education.

As with all good investigative studies, the research questions are linked to a broad conceptual framework, in this case, regarding the development of literacy in early years' immersion bilingual education in Gaelic. Second-language literacy development in Gaelic must be considered carefully within the current early years' framework (Scottish Government, 2008). A number of different factors influence the development of language and literacy in a variety of ways. The most important factors relate to phonological processes, first and second-language oral proficiency skills, cognitive abilities and educational background. Literacy development can be described as cumulative and dynamic as prior learning, motivation, teaching and attainment of skills all have an influence on the process. Pupils in Gaelic-medium education have different levels of ability in Gaelic when they start school and these variables may further influence their language proficiency and literacy.

The assessment and prediction of reading difficulties begins with the specification of skills and abilities which might have a bearing on early reading development. It is important to understand different theories of word recognition and spelling development as this knowledge assists in the interpretation of data and assessment findings in spoken and written language development. While reviewing the research literature related to phonological awareness and examining the practicalities of assessment, Chapter 3.5 discusses the predictors of early reading success or failure.

In this study, the language used in assessment is investigated to find out whether pupils from non-Gaelic backgrounds, having less exposure to Gaelic literacy, are

disadvantaged in the assessment process (Chapter 4.6). Similar assessments that exist in monolingual education are examined for purpose, structure and complexity in Chapter 7.2. The different approaches used to teach phonics* are explored in Chapter 3, as Gaelic is phonically more complex than English. The opportunities for testing a child's phonological processing skills are examined. The effectiveness of bilingual immersion programmes is reviewed and the educational assessment of bilingual children who may have learning difficulties is discussed in Chapter 2. Bilingualism itself is rarely a cause of learning difficulties according to Baker (2006). Further chapters focus on the importance of early identification of reading problems through screening and assessment procedures. An assessment tool is created to identify pupils who have reading delay or difficulties developing phonological skills in Gaelic. The aim is to facilitate the early identification of linguistic difficulties, thereby reducing the possibility of later failure in reading. The goal of an early screening instrument is to identify children at risk of reading failure before they have proceeded too far in their education.

A Curriculum for Excellence (Scottish Executive, 2004) arose primarily out of the National Debate on Education carried out by the Scottish Executive in 2002. The debate highlighted a number of concerns with the current system, such as overcrowding, progression, assessment, the balance between academic and vocational content, and the lack of choice. Within this framework *A Curriculum for Excellence* aims to improve practice where necessary to meet the needs of all children. This study has attempted "to link theory, research, policy and practice as a means of contributing to the improvement of educational practice" (Cummins, 2000, p. 1). The potential benefit of this research to teachers in Gaelic-medium education in Scotland will be the "informed specialist support" that MacLeod and MacLeod (2001) recommended in order to enable effective provision of appropriate intervention.

Literature Review

In Chapter 2, the importance of previous research on bilingualism is considered to aid understanding of the background to difficulties facing a new generation of bilingual pupils in Scottish Gaelic. Chapter 3 considers the influence which phonological skills have on the development of literacy generally and how certain aspects of Gaelic phonology* make it quite distinct from English. The purpose of researching previous studies of early language assessment and Early Intervention in Chapter 4 is to clarify the need for the development of a tool for assessment of phonological awareness in Gaelic and to gain an accurate understanding of the necessary constituent parts for such a tool. Chapter 5 investigates the journey Gaelic-medium education has taken thus far and considers how pupils with additional support needs in Gaelic-medium education are supported. Research in all these areas have been considered and applied to the development of an assessment tool for Gaelic-medium education.

Chapter 2: Bilingualism

2.1 Overview

Most research on bilingualism has tended to focus on pupils who do not have any additional support needs. Most research on dyslexia is usually focused on monolingual pupils (Snowling, 1995; Stanovich, 1998; Reid, 2003). Hatcher & Snowling (2002) suggested that many pupils who have weak phonological awareness often turn out to have some degree of dyslexia. Some studies have looked at modern foreign language learning and how the needs of dyslexic learners can be met (Crombie, 1997; Deponio, Landon & Reid, 2000b). What is common in these studies of dyslexic pupils and also in those looking at modern foreign language learning and dyslexics is a consensus that great care must be taken when choosing assessment materials. The need for early identification, the language of assessment and the need for observation criteria are all significant.

This section will examine the characteristics and advantages of bilingualism in relation to young learners of Gaelic in Scotland: bilingual dominance, second language acquisition. Environment, immersion bilingual education in various countries to compare with Gaelic-medium immersion education, and the support that pupils with learning difficulties require within these systems.

2.2 Characteristics of Bilingualism

Hornby (1977, p. 3) defined bilingualism as a characteristic that ranges from minimal ability to completely fluent in more than one language. "True bilingualism or fully fluent, or balanced bilingualism implies a functionally sufficient command of two language systems with regard to phonological, grammatical, lexical and pragmatic abilities" according to Titone (1990, p. 67). Baker (2002) referred to individuals who have equal fluency in their two languages 'balanced bilinguals' but stressed that there are a variety of 'bilinguals' in between these individuals and second language learners. Powney, McPake, Hall and Lyall (1998) considered that bilingual can refer

to one who daily uses more than one language. There are bilinguals in all countries; seventy per cent of the world's population is bilingual and regularly functions in more than one language daily (Learning and Teaching Scotland, 2005). Typically, bilinguals will use different languages in different situations, for example, at work, at home. Some people become bilingual in order to survive, for example immigrants who require learning the second language (L2) in order to gain employment or access education. Bilinguals can be found in every social class and in all generations. Some speak two or three languages because they live in close proximity to different countries. Multilingual families are not uncommon. Sometimes a community has decided to try to ensure the continuity of a language either through home use, official use or through education. Baker (2006) referred to elective bilingualism as a characteristic of someone who chooses to learn another language without losing the first language.

Children receiving Gaelic-medium education are largely educated through Gaelic and pupils acquire sufficient fluency in Gaelic to study as many as five subjects in Secondary school through the medium of Gaelic. The extent to which an individual is bilingual in Scottish Gaelic and English could be measured by ability to sit exams in Gaelic and in English but could equally be measured by conversation skills as bilingualism does not assume literacy in either language. Not all Gaelic bilinguals will be equally fluent in both languages but will have developed enough language skills to function equally well in both languages. Romaine (1995) believed that it is difficult to estimate the fluency of the two languages used by bilingual speakers. Baker (2002, p. 2) argued that "the most important factor in the language development of a bilingual child . . . . is about making language acquisition a thoroughly enjoyable experience".

Bilinguals usually perform better in one language than the other, although they are not necessarily more proficient in one particular language in all situations. Johnstone (2002) argued that here is no clear meaning of a first language (L1) as it could refer to the first language learned by a child, the stronger language, the majority language of the country or even the most prestigious language. Bilinguals are rarely equally

proficient in every respect in their two languages: one language is dominant, according to Saunders (1988). It is difficult to measure language dominance; however, Edelman (1969) tested bilingual children using the conceptualized measure of degree of bilingualism. Children were asked to name in 45 seconds, first in one language (L1), then the second language (L2), as many things as possible in several areas: family, school, church, home and so on. The assumption was that they would produce more words in the language in which they were more proficient. A ratio of language dominance was then calculated for each area using the formula:

$$\left[\frac{\text{No. L1 words - No. L2 words} + 1}{\text{Larger of the two}} \right] \div 2 = \text{language dominance ratio}$$

Results were given on a scale from 0-1, with 0.50 indicating a balance between the two languages. A result of 0 would indicate no responses in the first language while 1 would indicate all responses were in L1. Saunders used this measure on children whose pre-school bi-linguistic input was on average 3:1 in favour of L1 and as much as 6:1 in favour of L1 when they were at school. He had expected greater proficiency in L1 but found that the gap between proficiency in L1 and the second language was not all that great. This reflects similar evidence reported by Johnstone (2002, Chapter 3, p. 9) which "suggests that immersion in a second language through participation in an all-X school (all-French, all-Gaelic ...etc) enhances learners' proficiency in the immersion language beyond what is possible in conventional immersion settings." He stated that this immersion experience takes children close to native speaker levels, "with no loss to their command of their first language or of other subject-matter that is taught at school". Further discussion of Gaelic-medium immersion education follows in Chapter 2.5.

Language dominance was a factor which was important in identifying the language of instruction for language minority children in the USA (Genesee, 1985). Similarly, one language may be more likely to be used in certain circumstances, for example, for religious observance or social activities, while the other language may be used in education or for official functions. About 95% of the world's linguistic groups speak a minority language, according to R. Smith (2003), yet the education of many of these people is conducted in one language only. This language is usually the one

used for official business and career prospects. For example, in Nigeria, there are three major national languages spoken – Hausa, Yoruba and Igbo. However English is recognised as the actual official language in all tiers of education, law courts and the bureaucracy (Emenanjo, 1985).

A conference was held in Glasgow in 1981, under the auspices of the Association for Scottish Literary Studies, to consider the status and maintenance of minority languages in Central Scotland (McClure, 1983). Punjabi, Polish, Lithuanian, Urdu, Cantonese and Gaelic were all presented as languages of immigrant communities, Gaelic being included because a considerable number of Gaelic-speakers had migrated to the cities in the central belt of Scotland. The following points were made repeatedly by the speakers. Minority language speakers had the feeling of shame because of the lack of respect for their language during schooling. They felt in a sense that English is forced upon non-English speakers at an early stage of their school careers. They feared losing their native tongue and a removal from home culture. The ignorance among educators of the extent of bilingualism in Scotland, the range of different languages spoken and the provision made for their maintenance within the community all led the speakers to feel the lack of concern that the Scottish education system had for ethnic minority groups. The lack of interest in minority languages was seen as a loss for pupils and school communities. Several recommendations were made to bring about a practical improvement in the provision for minority languages in Central Scotland.

The amount of input a child receives in either language will potentially affect the dominance of one language over the other. This can be seen when a bilingual child attends a monolingual school in contrast to a bilingual child attending a school where bilingualism is fostered through the medium of instruction (Roscigno, Velez & Ainsworth-Darnell, 2001). Even within the bilingual school setting, pupils will hear varying amounts of the language according to their home context. A pupil growing up in a Gaelic-only-speaking home will hear Gaelic more than say a pupil coming from a Gaelic and English-speaking home and much more than from a home where only English is spoken. Thus the quality and amount of vocabulary a pupil knows

will depend largely on which words he/she hears and how frequently they are heard. Johnstone (2002) referred to the term "L1 maintenance" to describe pupils from Gaelic-speaking homes receiving Gaelic-medium education. Current studies at the Centre for Research on Bilingualism (Economic and Social Research Council, University of Wales) are examining the interactions between a bilingual's two languages and between his/her linguistic knowledge and categorisation in the hope of developing appropriate assessment tools for bilinguals. Among the theoretical questions they are studying is the relationship between the bilingual's two languages and the use of morpho-syntax*, as well as the effect of language balance and experience on the process of language acquisition.

In Scotland, nearly all Gaelic speakers are bilingual as the Gaelic monoglots had virtually disappeared by the 1970s and 1980s (Withers, 1984). This period also saw an increase in Gaelic learners as well as a shift to new areas and uses for Gaelic. In Gaelic-speaking communities today, Gaelic speakers are also English speakers and many use Gaelic as a community language. Further reflection on the incidence of Gaelic bilingualism follows in Chapter 5.2. As there has been a resurgence of interest in Gaelic, especially in education, it would seem timely to assist some young learners who have difficulties in the process of becoming bilingual.

2.3 Advantages of Bilingualism

Bialystok (1991) demonstrated that positive cognitive gains are associated with learning a second language in childhood. Her research in Toronto concluded that children who are bilingual from an early age out-perform children with only one language in a variety of non-verbal problems needing control and attention. Cummins (1983) stated that bilingualism can positively influence both intellectual and linguistic development. Second language immersion can lead to "additive bilingualism" according to Johnstone (2002) where pupils acquire functional, academic and literacy skills in two languages. The bilingual environment of the immersion classroom promotes the language development of both languages in an academic fashion. Similarly, a national survey of English reading in the Republic of Ireland found an advantage for Irish-medium schools (Department of Education,

1991). The Centre for Education for Racial Equality in Scotland (CERES) (1999), drawing on the work of Jo Lo Bianco, published a policy statement concerning minority language learners in Scotland in which bilingualism was viewed as a 'positive capacity' offering economic and educational benefits as well as human rights and social equality. The benefits of bilingualism are one factor that is drawing parents to Gaelic-medium education. The Highland Council (2007, p. 8) stated that "children who learn in two or more languages, as happens in Gaelic Medium Education, benefit cognitively from the processes involved."   Grant (1983, p. 150) put it well when he said: "the logic of multicultural education is the development of the capacity to cope with several layers of identity, none of them exclusive – local, sub-national, national, international." Drawing on extensive research projects around the world (Johnson & Swain, 1997; Swain & Lapkin, 1990; Genesee, 1994; Cummins, 1999; Johnstone, 2002); Baker, (2002) one of the world's leading experts on bilingualism, highlighted the following advantages of bilingualism, at a public talk to parents of children in the Gaelic-medium education unit in Glasgow, which he described as the 6 Cs:

- Communication advantages
- Cultural advantages
- Cognitive advantages
- Character advantages
- Curriculum advantages
- Cash advantages.

These can be expanded more fully to realise the enormous benefits available to pupils receiving a bilingual education.

Communication advantages: Children can communicate more naturally and expressively, maintaining richer relationships with their parents and grandparents, as well as with the local and wider communities in which they live.

Cultural advantages: Pupils gain the benefits of two sets of literatures, traditions, ideas, ways of thinking and behaving. With two languages come a wider cultural experience, greater tolerance of cultural differences and, perhaps, less racism. They have 'two windows on the world'.

Cognitive advantages: Bilingual children have two or more words for objects and ideas, so the links between words and concepts are looser, allowing more fluent, flexible and creative thinking. Moving between two languages may strengthen their sensitivity in communication.

Character advantages: Bilinguals can act as a bridge between people of different colours, creeds and cultures. The freedom of movement between languages and cultures is empowering and raises self-esteem. Bilingualism can help a feeling of rootedness or identity.

Curriculum advantages: Bilingual education increases achievement, and greater proficiency with other languages is apparent as bilinguals tend to be more attuned to languages. Bilinguals can outperform monolingual pupils across the curriculum.

Cash advantages: As barriers to movement between countries are taken down, the earning power of bilinguals rises. Someone with two languages may have a wider choice of jobs.

One might add another C – Confidence. LTS (2006) presented the analogy* of tinted glasses demonstrating how monolinguals see the world through yellow-tinted glasses whereas bilinguals have a choice of how to view the world, through yellow-tinted lenses or through blue-tinted lenses. They may also choose to wear both at once making green-tinted lenses. This enables bilinguals to be potentially confident individuals. If all other factors are equal, higher degrees of bilingualism are associated with higher levels of cognitive attainment according to Diaz (1983). However it should be acknowledged that Willig (1985) looked at studies of the effectiveness of bilingual education and found some of the research wanting: "most research conclusions regarding the effectiveness of bilingual education reflect weaknesses of the research itself rather than effects of the actual programs" (p. 297). The research undertaken for the present report does not comment on the effectiveness of bilingual education per se; it rather attempts to seek an improvement

to a system that is still undergoing development. The results can be seen as a means by which Gaelic-medium pupils can move closer to bilingualism.

To appreciate bilingual development, it is necessary to understand thoroughly second language (L2) acquisition (R. Ellis, 1997). Krashen (1981) made a distinction between informal language acquisition and formal language learning. He argued that we acquire the rules of language in a particular order; we use language for real communication as well as learning or knowing about language; we consciously learn by understanding messages. Some research shows that the native language (L1) does not interfere in any significant way with the second language (Hakuta & Garcia, 1989). The rate of L2 acquisition is related to the proficiency level of L1 according to Cummins (1984). Sharwood Smith (1994, p. 50) believed "second language acquisition is driven by essentially the same set of processes that are active in first language acquisition" and indeed, research has shown that competence in a first language aids the underlying proficiency of a second language. Cummins (1984, p. 143) stated that "the interdependence or common underlying proficiency theory implies that experience with either language can promote development of the proficiency underlying both languages, given adequate motivation and exposure to both either in school or in the wider environment."

Following research in 1982, Dulay, Burt and Krashen found 14 major characteristics of second language learning. Some of them are relevant to Gaelic-medium education. A silent phase at the beginning of language learning (when the learner is not required to produce the new language) can prove useful in minimising interlingual errors and enhancing pronunciation. Children who attend Gaelic-medium education are encouraged to go to a Gaelic speaking nursery or playgroup prior to starting school for this reason. The optimum length of the phase ranges from several weeks to several months. This approach approximates what language learners of all languages experience when very young and it appears to be more effective than forcing full two-way communication from the very beginning of L2 acquisition. Dulay, Burt and Krashen thought that younger learners pick up a second language faster than older learners, but that theory has largely been disputed by

several researchers including Baker (2006) and Marinova-Todd, Marshall and Snow. (2000). However, Garcia, Jimenez and Pearson (1998), found that bilingual pupils up to the age of six, outperformed monolingual pupils on tasks of metalinguistic* awareness. Learners learn most from their peers and from people with whom they can identify. "A new language is caught rather than taught; acquired rather than learned", stated Baker (2006, p. 128), making it a subconscious process. Conscious learning and application of grammatical rules have a place in L2 learning but their purpose is different from the subconscious learning which produces native-like fluency. Exposure to natural communication, such as free conversation, non-language games and films, in the target language, is necessary for the subconscious processors to work well. The greater the exposure to L2, the more rapid and comprehensive learning may be. Relaxed and self-confident learners learn faster in any aspect of education which is the goal of one of the four capacities in *A Curriculum for Excellence* (Scottish Executive, 2004): successful learners, effective contributors, responsible citizens and confident individuals.

The influence of a learner's first language is negligible in grammar but significant in pronunciation according to the transparency of the language (Dulay, Burt & Krashen, 1982). The Gaelic sound system is different from the English one as will be discussed in Chapter 3.7. There may be innate learning processors which are the basis of L2 acquisition. Language learning occurs in the brain where mental structures process and organise the language to which the learner is exposed. Research by Dulay, Burt and Krashen (1982) suggested that three internal processing factors play a major role in second language acquisition: the filter, the organiser and the monitor. The term "filter" refers to the affective factors that subconsciously screen out certain parts of a learner's language environments ("affective" meaning the learner's motives, needs, attitudes and emotional states.) The "organiser" is that part of a language learner's mind which organises the new language system by gradually building up a rule system and allows the learner to produce new sentences not previously memorised. The "monitor" is the part that consciously processes information. When grammar rules have been memorised, the learner relies on the monitor to try to apply them consciously in conversation. The learner needs to

comprehend the context of natural communication in the new language. This can be done quite naturally in the Gaelic-medium classroom where the teacher uses Gaelic as the medium of instruction in all curricular areas. In the early stages, pupils may communicate in English in response to questions but this demonstrates that understanding has taken place. By continuing the conversation in Gaelic, the teacher is communicating naturally moving into L2. This enables child language learners to acquire a good level of fluency in a short time (HMIE, 2005). The role of a child's first language is of great importance; developing and maintaining a home language is the foundation for knowledge about language. Recent literature in early bilingualism strongly indicates that the age at which one first encounters a second language is only one of the determinants of the ultimate level of proficiency attained in that language (Johnstone, 2007). Research and informal observations of second language learners suggest that an early start in a second language is "neither a strictly necessary nor a universally sufficient condition for the attainment of native-like proficiency" (Romaine, 1989, p. 232); however Johnstone (2002) argued that early primary and pre-school pupils in an immersion environment make more rapid progress in developing metalinguistic awareness than monolingual pupils and possessed an analytic approach to language.

Childhood bilingualism has been described by L. Thompson (2000) as either simultaneous, where a child is exposed to two languages equally from birth, or sequential, where one language is learned at home and another one at school.   Baker (2000) suggests there is no clear difference between becoming bilingual through instruction in L2 as opposed to simultaneous childhood bilingualism. The term 'bilingual first language acquisition' is used by De Houwer (1990) to describe a child who is exposed to L2 no later than a week after exposure to L1, and who is regularly exposed to both languages. "The earlier a child becomes accustomed to hearing and speaking more than one language, the more natural it will be for him or her to regard language proficiency as a normal part of life" (The Royal Society of Edinburgh, 2006). Parents of prospective pupils in Gaelic-medium schools are encouraged to send their children to the Sgoil Àraich (nursery class) or Cròileagan (playgroup) if they have not had exposure to the Gaelic language in the home.

2.4 Environment

An important aspect of early bilingualism is the relationship between home and community. Research has shown that pupils acquire language more effectively when it is learned for communication in meaningful and 'significant social situations' (Snow, Met & Genesee, 1989). Second language learners will acquire much of their language incidentally through interacting with peers and adults in the community, but this is not the case for the majority of Gaelic-medium pupils who frequently live in non-Gaelic-speaking areas. For some languages, a bilingual child may have monolingual parents but learn L2 from neighbours and the local community. Cummins (1991, p. 95) showed that, before the age of three, the language experience a child has, in the community and at nursery, can have a huge effect on becoming bilingual. "Rather than trying to expedite the disappearance of the child's home language, educators should actively explore with parents ways in which the developmental process that underlies growth in both languages can be enhanced." It is this important early experience that the Gaelic playgroup movement, Comhairle nan Sgoiltean Àraich (CNSA), now TAIC, tries to encourage and promote. The effect of early exposure to Gaelic will be explored in Chapter 7.11 by collecting data about pre-school exposure and observing any effect on measured phonological awareness.

A strong basis in the home language is a key factor in enhancing a bilingual learner's achievement and self esteem according to Baker (2006). The effort to encourage literacy in children literate in their home language as well as in the majority language can help them to realise that their home language is a living language which extends beyond their own immediate family and which can be, and is used for all the functions for which the majority language is used. Sadly, there are children growing up in communities in Scotland and elsewhere, where no provision is made in the school system for one of their languages. Evidence of this comes from the Scottish Government (2010) who declared that 147 different languages were spoken by pupils in Scotland as the main home language in 2008, and that there were 19,000 pupils for whom English was an additional language. Although there are more teachers in Scotland than ever before who are able to teach using a language other than English,

only a very small minority of these 147 languages can be developed alongside English, for example, Urdu, Punjabi, Polish although not via bilingual education; rather pupils will be supported and encouraged to use their home language helped by Bilingual Support Assistants. Landon (1983) described a survey carried out in 1979 showing the extent of bilingualism in Scottish schools when around 6,000 children needed help with English. At that time, he believed that the vast majority of schools had no idea of the bilingualism of their children. In fact, it is not so long since many in the educational system thought that having a first language other than English was a handicap; anyone in this position was to be taught English, not as well, but instead (Scottish Council for Research in Education, 1961). Smyth (2003) found that teachers thought that in order for bilingual pupils to be successful in school they would need to become monolingual.

Some pupils can acquire the literacy of their cultural inheritance. In learning to speak Gaelic, pupils, whose parents often have no knowledge of the language but whose grandparents may have been fluent Gaelic speakers, can access their cultural heritage through learning what was essentially an oral-based language. However, "just" speaking a second language, like Gaelic, in the home is not enough to assure its maintenance as can be seen from the decline in the numbers of Gaelic speakers from National Census data in Table 1.

Table 1. Scottish Census Results

Year   Number of Gaelic Speakers in Scotland

Year	Number of Gaelic Speakers in Scotland
1881	231,594
1891	254,415
1901	230,806
1911	202,398
1921	158,779
1931	136,135
1951	95,447
1961	80,978
1971	88,413
1981	79,307
1991	65,978
2001	58,652

(MacKinnon, 2007)

Although 92,400 people declared they had some Gaelic language ability - reading, writing and speaking Gaelic (Census of Scotland, 2001), it is clear that the number of speakers of Gaelic is declining (See Table 1). The ability to read and write a second language can lead to a greater richness of language even though Gaelic is essentially an oral language. Many adults who were brought up to speak Gaelic often have very little knowledge of written Gaelic so Gaelic-medium education, as a relatively recent innovation, introduces not only speaking and listening but reading and writing as well. For this reason, it is important that literacy skills in Gaelic can be assessed in a similar way to literacy skills in English.

Oksaar (1984), noted that in bilingual marriages of Estonian bilinguals in Sweden and the US, the children usually learn to read first in the language of the parent, or in the family language. They follow on to read the second language with no difficulty supporting the theory that children only have to learn to read once and that this skill can be transferred from one language to another. "Once literacy-related skills are

well-established in one language, they will transfer readily and rapidly to the other language" according to Cummins and Swain (1986, p. 41). When a child knows more than one language he is oblivious to the sounds of one while using another. Different languages use different sounds or groups of sounds to represent different ideas. MacFarlane (1889) used the analogy of a musician knowing which key to perform in to describe this; once a speaker has fixed upon the language he is to speak in, like the musician finding the correct key, he will start on that key and maintain a certain relationship of sounds throughout. He went on to argue that to know the sounds of one language by their relationship to those of another is not of great advantage in acquiring a new language. For young learners of Gaelic this might imply that knowledge of English phonological awareness does not affect phonological awareness acquisition in Gaelic. However, Cummins (2001) reported that moderately strong relationships exist between L1 and L2 academic development in bilingual programmes. Titone (1990) devised an "Early Bilingual Reading Kit" to examine the possibility and effectiveness of simultaneous learning to read in two languages from an early age. The method has been used to teach Basque-Castilian bilingual children to try to strengthen the Basque language which has lost ground in recent times. Previous educational experiments in Basque-medium teaching came to an end with the Spanish Civil War (1936-1939) when the public use of Basque was illegal. Like Gaelic, the numbers of Basque speakers fell dramatically during the first half of the twentieth century and renewed attempts at Basque-medium education were made in the 1960s. It was not until 2004 that the education department began to encourage teachers to use Basque as a teaching medium to strengthen the language; however, McLeod (2003) highlighted another threat to the Basque language through the drop in the birth rate which has meant a decline in school rolls as well as a decrease in the number of teachers.

Cross-linguistic influence or language transfer was a term used in the 1960s and 1970s referring to the influence of the first language on the learner's performance in a second language. The direction of transfer is usually from the first language to the second language. This code switching is an active creative process of incorporating material from both of a bilingual's languages into communicative acts as can be seen

at the infant immersion stage of Gaelic schooling when plurals are made by adding "s" instead of "*an*": "*deideags*" instead of "*deideagan*" (toys) (Lyon, 2003). When speakers have access to more than one language they can alternate the language code or mix them together. Baker (2000) referred to the 'base, recipient or matrix language' into which language items from the 'donor or embedded language' are introduced. A child who does not have the correct vocabulary has been heard to mix both languages and say "*tha seo a'*move*adh" (*this is moving) rather than *"tha seo a' gluasad"* (Lyon, 2003). Code switching can be a conscious act but usually it is subconscious. In the past, code switching in the same communicative act was seen as a problem, indicating deficient language skills (Brice & Anderson, 1999). In fact, code switching between bilingual speakers is a natural and common phenomenon, according to Pert and Letts (2006). The current research does not investigate this but it has been noted in the use of rhyme production in Chapter 7.3. Young Gaelic learners are encouraged to speak as much Gaelic as possible, as discussed in the next section, and it is not known whether code switching has an impact on their acquisition of reading skills in Gaelic.

2.5 Immersion Bilingual Education

Bilingual education has been described by Baker (2006) as having ten different forms of which immersion bilingual education is known as one of the 'strong' ones. Walker and Tedick (2000) believed six different models make up the 'macrocontext' of immersion education – early total immersion, early partial immersion, delayed early immersion, delayed partial immersion, late total immersion and late partial immersion. Genesee (1994) believed that total immersion programmes are the most effective approach to L2 teaching in schools. Immersion bilingual education is part of a tradition that began in 1965 when a group of Canadian parents living in French-speaking St Lambert, Quebec, realised that existing French teaching programmes did not prepare their English-speaking children to communicate adequately in French. In most secondary schools in Scotland, a modern language is taught in schools for about three one-hour periods per week. If twenty minutes of each lesson is spent actually listening to the foreign language, this amounts to one hour per week. Across the year this will amount to fewer than two days. Language learning can amount to

nothing more than vocabulary recognition. This would certainly not be enough to keep a minority language, such as Gaelic, alive.

Initial aims of the Canadian immersion bilingual education were for pupils to become competent French speakers, readers and writers; to achieve equivalent attainment in English and French in the curriculum and to appreciate the culture and traditions of both languages. Baker (2006, p. 204) claimed that "the aims were for children to become bilingual and bicultural without loss of achievement". In order to achieve these aims, pupils cover the same curriculum as ordinary schools but do so through the medium of French using it as a communicative tool. The broad aim of Gaelic-medium education is the preservation and revitalisation of the Gaelic speech community and more specifically, as stated in the Gaelic-medium Education Language Guidelines 5-14 (Scottish Office Education Department [SOED], 1993, p. 7), "to bring pupils to the stage of broadly equal competence in Gaelic and English in all four language skills by the end of P7"

Initially, the only language used in an Early Total Immersion programme (Hickey, 1995) is L2, with L1 being gradually introduced in later years. Children achieve literacy in L2, which is the immersion language, before they achieve literacy in L1. In Gaelic-medium education in Scotland, pupils are taught through Gaelic although this is the second language to the majority of children. It is this experience with the second language as a medium of instruction in the natural environment of the classroom that Dulay et al. (1982) believed enhances the efficiency of language acquisition. A pupil is not only learning the language but also accessing all curricular areas through the medium of the target language which can be quite challenging for both pupil and teacher. Johnstone (2002) attributed these key areas to the success of immersion education: "the time factor", "the intensity factor" and "the exposure factor". Providing that there is good quality of teaching, "it is highly predictable that learners in immersion programmes will achieve substantially higher levels of proficiency in the target language without apparent loss in their knowledge of key subject matter." Johnstone (2006, p. 35).

One concern that always worries parents who are considering an immersion method of instruction for their child is whether an equivalent academic achievement is possible in both languages (Chipongian, 2000). This fear has largely been allayed following a number of research studies according to Cummins and Swain (1986). "The development of additive bilingual and biliteracy skills entails no negative consequences for children's academic, linguistic or intellectual development. On the contrary, although not conclusive, the evidence points in the direction of subtle metalinguistic, academic and intellectual benefits for bilingual children" (Cummins, 2010, ¶15). Research evidence from Canada and the United States, and studies in Basque, Catalan and Welsh bilingual education reveal that children who operate in two languages in the curriculum tend to show superior performance (Schools Council Committee of Wales, 1978; Artigal, 1993; Danoff, Coles, McLaughlin & Reynolds, 1978). "The hundreds of evaluations which have been conducted of different immersion programmes across Canada constituted an important step in reassuring parents and educators of their validity" (Swain, 1996, p. 91). Referring to the Canadian programmes, Genesee (2007) described the same or superior levels of competence achieved by immersion students in their native language compared to students in monolingual education. He further described the high levels of academic achievement in science and mathematics as well as the higher levels of proficiency of immersion students compared to English-speaking students. In Scotland, Johnstone, Harlen, MacNeil, Stradling and Thorpe (1999) gave parents confidence in the advantages of Gaelic-medium education when they stated in their report:

> "*Pupils receiving Gaelic-medium primary education, whether or not Gaelic was the language of their home, were not disadvantaged in comparison with children educated through English. In many ways, though not in all instances, they outperformed English-medium pupils and in addition gained the advantage of having become proficient in two languages."*
>
> The Attainments of Pupils Receiving Gaelic-medium
> Education in Scotland (Johnstone et al., 1999, p. 12)

In a further review of international research of immersion education, Johnstone (2002) described immersion learners as being highly functional in two languages and suffering no long-term negative effects to their academic, cognitive or attitudinal

development. Compared with native speakers of the same age though, the evidence indicated that they reached the same level of proficiency in speech although their listening skills were comparable with those of native speakers. Learning and Teaching Scotland (2005) describe the five stages of English language development as (i) new to English (ii) becoming familiar with English (iii) becoming confident as a user of English (iv) a competent user of English in most social and learning contexts (v) a fluent learner of English. Perhaps these stages could be used in the context of Gaelic-medium education as the majority of pupils are new to Gaelic.

Baker (2006, p.372) suggested that language rights are sometimes expressed at the 'grassroots' level as pressure to preserve a language in a country is created in the form of pre-school playgroups and adult learners classes. "Stronger activism and more insistent demands have led to the establishment of heritage language elementary schools, particularly in urban, mostly English speaking areas." This was the case in the central belt of Scotland in the mid 1980s where pressure groups were responsible for gaining political action in establishing the first Gaelic-medium unit in Scotland. Both native Gaelic speakers and those who spoke only English were involved but their common desire was for their children to be taught in Gaelic. The expansion and development of Gaelic learning in Scotland owes a great deal to the parental lobbying and pressure they put on the Scottish government. Cummins and Swain (1986) found that many pupils, enrolled in primary immersion education in Canada, were from Anglophone middle to upper socio-economic backgrounds. This was initially the case in Scotland. Johnstone (2002, Summary, para. 6) described a further socio-cultural aim of Canadian immersion as "a clearly expressed wish to differentiate itself linguistically and culturally from its massive neighbour to the south".   Some might argue that the ability to speak Gaelic could, in some circles, be seen as a nationalistic trait. In Wales, Baker refers to the growth of bilingual and Welsh-medium education as "the gentle revolution" where the country's cultural identity almost outweighs educational advantages as a reason for bilingualism.

Glasgow and Inverness saw the opening of the first Gaelic-medium immersion units in 1985. These units followed the early total immersion models of Wales and

Canada and were unusual in that the staff had no specialist training apart from regular teacher education. They were fluent Gaelic-speaking primary teachers who volunteered to teach the curriculum through the medium of Gaelic using some of the resources from the Gaelic Bilingual Project of 1975 (See Chapter 5.2) in addition to their own homemade materials. As the intake increased annually, and other units opened, specific teacher education courses and teaching resources were developed. Secondary education was offered in a Gaelic unit attached to a secondary school from 1987. In 1999, the City of Glasgow opened the first all-Gaelic primary school, and went on to deliver secondary education in an all-Gaelic school in 2006. The Glasgow Gaelic School provides a range of cultural opportunities and the school roll in the 2009-2010 academic session was projected to be over 400 (Glasgow City Council, 2009). In fact the roll for that session totalled 306 primary pupils, 144 secondary and 60 in the nursery (Bòrd na Gàidhlig, 2010). With an estimated 345 primary and 200 secondary pupils in the 2011-2012 academic session, the creation of a second Gaelic school in the city seems likely. Inverness saw the building of Scotland's first purpose built Gaelic-medium primary school in 2006.

In Scotland, in 2000, Gaelic Learners in the Primary School (GLPS) came into being. GLPS is different from Gaelic-medium early total or partial immersion in that it offers pupils the opportunity of learning another language in a similar fashion to the way in which other European languages are taught in the Primary school. Class Teachers volunteer to teach Modern Languages in the Primary 6 and 7 classrooms and undergo some in-service training but do not need specialist qualifications. GLPS often starts at an earlier stage in the school and is usually though not necessarily delivered by native Gaelic speakers. English is the main teaching language for GLPS pupils, therefore these pupils will not be involved in the current research of Gaelic-medium education (Johnstone, 2003).

2.6 Bilingualism and learning difficulty

The support needs of bilingual learners at the early stage of literacy overlap with, but are different from those of English speakers in many respects (Learning and Teaching Scotland, 2005). If a bilingual pupil is not making the expected progress in

reading it is very important to find out if there are learning difficulties apart from the second language learning. Research has shown that most children learning English as a second language do not have problems deciphering print at the word level. In fact children who can decode in another script often have a good phonic awareness and will decode well in English. Alpren and McCall (2003, p. 26) found that "early phonological difficulties are an important indicator [of experiencing difficulties with literacy] since bilingual pupils often have heightened phonological awareness and develop good decoding skills at an early age of learning to read in English". Most challenges are found to be linguistic or cultural at the sentence and text level. This does not mean to say that second language learners do not experience reading difficulties such as dyslexia.

For some time it has been felt that some pupils' literacy difficulties have been unidentified and their problems attributed to their limited knowledge of the second language. Within Scotland, the Commission for Racial Equality found a significant under-representation of bilingual children in Strathclyde among pupils being confirmed as being dyslexic (Commission for Racial Equality [CRE], 1996). Cummins (1999) believed bilingual learners may have unidentified needs within the education system but that the assessment of their needs may fail to identify the key issues. According to Landon (1996), many bilingual learners have difficulty accessing the curriculum through a second language and have been labelled with a learning difficulty where none existed. However, he warned that failure to identify any learning difficulty at an early stage may result in the lack of suitable early intervention.

The child with a language learning disability is one who has normal intelligence and no major emotional or physical difficulties and yet has difficulty acquiring specific basic skills such as reading, spelling and oral and written language proficiency. Baker (2007) described less able* pupils as "surprisingly capable" of acquiring two languages early on and being able to communicate in both languages as well as they were able to in one language. In Montreal, a group of children, who had language difficulties and were brought up in English-speaking homes, began to receive their

education through the medium of French, similar to pupils receiving Gaelic-medium education. Bruck (1978, p. 70) looked at the suitability of early immersion French programmes for these children and came to the conclusion that many learning disabled children "should not be excluded from such programs merely because it is felt that their first language development is poor." The linguistic growth of children with a language disability was not impeded by the French immersion programme. They acquired oral proficiency in French albeit at a slower rate than children without language difficulties. The academic skills of the children with language difficulties developed more slowly than the others but having a language disability and being educated through a second language was not a double burden on these children. Some similar pupils had followed the core curriculum then left school with almost no knowledge of French. This is because the nature of the teaching method seems to exploit their areas of weakness for example, short term memory, repetition of language out of context, explicit teaching of abstract rules. Wiss (1989, p517) confirmed that pupils with language difficulties in the immersion language would probably have the same difficulties in their first language: "usually these children have specific learning disabilities that include deficits in cognitive processing. Such deficits interfere with the acquisition and maintenance of fluid reading skills regardless of whether the learning environment is unilingual or bilingual."

The phonological deficit hypothesis as an explanation of the difficulties experienced by monolingual dyslexic pupils is widely accepted as will be shown in Chapter 3.5. Snowling (1995), Frith (1997), Everatt, Smythe, Adams and Ocampo (2000), British Psychological Society (BPS) (1999) and Frederickson and Frith (1997) have suggested that this may also be the case for bilingual dyslexic learners. The processes used in children's acquisition of second language (L2) phonological structures appear to be similar in many respects to those that children use in learning their first language (L1), suggesting the existence of a set of natural processes of phonological acquisition (Stuart-Smith & Martin, 1999). Dulay et al. (1982) believed that the learner makes extensive use of first phonological structures as a communicative strategy in the early stages of L2 acquisition. The new phonology is built up using L1 phonology as a base as the learner already has L1 phonology and

uses it as a foundation for further learning. The learner's L2 speech will have a substratum of L1 sounds. As the Gaelic language has more than double the number of sounds that English has, there is clearly potential for some difficulty for the non-Gaelic speaker in acquiring all the new sounds, finding out how they work together and how these sounds appear in writing.

Studies by Crombie (1997) and Sparks et al. (1998) indicated that the difficulties encountered by a pupil with their native language learning are often a reasonable predictor of difficulties which might be encountered in learning a foreign language. In tests taken by bilingual pupils, where a high non-verbal score and a low verbal score could indicate an early stage of language acquisition or a specific learning difficulty, it could indicate verbal skills not accurately reflected because of the language bias of the test. If a dyslexic student decides to study a foreign language, then it is advisable to choose a language which is similar phonetically to English. Spanish or Italian might therefore be a better option than French for students with dyslexia. While Latin is not often offered in schools these days, many teachers feel it is a 'dyslexia friendly' choice (Crombie & Schneider, 2004). In Denmark, remedial instruction is offered to bilingual pupils but Kidde (2000) believed that current educational debate indicates that the tools and measurements used in the assessment procedure need clarification and adjustment in relation to bilingual pupils. Mother tongue teaching, Kidde supposed, is essential to the language development of the bilingual child.

Hall (2002) described how increasing awareness of the linguistic and cultural bias of many standardised tests in the UK and in the USA in the 1980s highlighted the under-referral of bilingual pupils. Testing pupils in a second language in which they are not highly proficient may not accurately reflect their level of knowledge relating to the content of the text. In other words, testing in L2 is a risky business when measuring subject content knowledge. The language of tests is an important consideration when testing for knowledge of subject content. If the L2 proficiency is not of a suitable standard then performance may be underrated. Equally, tests cannot simply be translated from English and administered by a native speaker as the syntax

can vary in difficulty as can the complexity of phonology. Gaelic phonology differs from English phonology as can be seen in Chapter 3.7. Vocabulary used in tests may be unfamiliar because of cultural differences as well. This aspect has been taken into consideration in the current research. Cummins (1984) suggested that even if the learning of the subject matter took place in L2, it does not necessarily imply that testing should occur in that language.

In Northern Ireland, Clay and Nig Uidhir (2007) spent five years on a study under the auspices of the Early Literacy Assessment Project (ELAP), developing an assessment of early literacy achievement in Irish, as, similar to the situation with Gaelic, there was a lack of such a resource. This resource was based on Clay's Observation Survey of Early Literacy Achievement (1993) and the aim of the ELAP project was to produce a set of instruments to assess the literacy learning of pupils in their first year of schooling in Irish, Spanish, Danish and Slovak and identify those at risk of literacy failure in the early stages of schooling. Unlike pupils in Gaelic-medium education, the majority of pupils are fluent speakers of their languages. One of the goals was to explore its usefulness within the different education systems within these countries. Before the start, several differences were noted. Pupils start school at five years of age in Ireland and in the U.K.; at six years of age in Spain and Slovakia; at seven years of age in Denmark. The Spanish and Slovak languages are orthographically quite regular; Irish is less orthographically transparent whereas English and Danish are even less regular. Redeveloping a tool must involve more than just translation; each subtest must suit the language, culture and education system. The ELAP assessment was hoped to be a useful tool for teachers assessing pupils at the start of school and to measure their progress over the first two years. The Irish assessment tool by Clay and Nig Uidhir (2007), 'Áis Mheasúnaithe sa Luathlitearthacht: Treoir ar Mhúinteoirí', gives a profile of what a pupil can do in the areas of concepts about print; writing; hearing and recording sounds in words; reading high frequency words; and letter identification. This goes further than the present study as only pre-reading phonological skills are presently under investigation. The sample was drawn from pupils aged 5:6 – 7:6 in Irish-medium schools throughout Ireland. This might be an assessment, involving reading and

writing that could be used in the Gaelic-medium classroom with minimal adaptation to Scottish Gaelic as the two languages share similar orthographies. Parsons and Lyddy (2009) found that pupils reading unfamiliar words from either Irish or English may adopt different strategies according to the language being read. Similarly, words that share similar orthographies in Gaelic and English may have different pronunciations, for example, *fear*, *bean*.

In Wales, Munro, Ball, Müller, Duckworth and Lyddy (2005) studied Welsh – English bilingual children aged 2:6 - 5 years examining the ages at which the consonant systems of English and Welsh are acquired in order to provide benchmarks for use by speech and language therapists in assessments. Spencer and Hanley (2003) adapted a number of syllable* and phoneme* segmentation tasks from the study by Liberman, Shankweiler, Fischer and Carter (1974) for use with young Welsh readers. Similarly, in Ireland, Lyddy (2005) constructed a syllable segmentation task and a phoneme segmentation task for Irish words also based on tasks outlined by Liberman et al. (1974). Lyddy also designed a phoneme deletion task in Irish similar to the Dutch and English tasks used by Patel, Snowling and DeJong (2004). Frederickson and Frith (1997) have standardised some of the screening tests used to assess monolingual dyslexic pupils using samples of bilingual pupils. Sunderland. Klein, Savinson and Partridge (1997) developed some assessment procedures, specifically for bilingual pupils, which looked at cultural and linguistic factors as well as diagnostic tests* and checklists. However, there have been no assessments of phonological awareness in Scottish Gaelic to date.

Deponio, Landon and Reid (2000b) were concerned with what kind of screening should take place and when bilingual pupils should be assessed. They questioned whether standardised screening tests can be adapted successfully, what criteria should be used and how language understanding affects the test situation. Non-native speakers of English may have a high level of fluency and accuracy in conversational spoken English but it should not be assumed that they have the same level in academic language proficiency as discussed in Chapter 2.4. "Methods for diagnosis and treatment of learning disabilities for the middle-class Anglophone

child are much more straightforward than for the child schooled in a second language or from a minority background" according to Bruck (1984, p. 124).

Culture-fair assessment is emphasised in a report by a working party of the Division of Educational and Child Psychology of the British Psychological Society on Dyslexia, Literacy and Psychological Assessment. Phonological difficulties and letter-naming speed can be a focus of an assessment in the language of tuition but may lead to cultural or linguistic confusion or misperception (BPS, 1999). Landon (1999) has suggested that a bilingual pupil, orally competent in L1, who fails to respond to pre-reading support in L1 may have a specific learning difficulty. Poor performance in phonological awareness tests is an important indicator as usually bilingual learners display enhanced phonic awareness and decoding skills according to Deponio, Landon, Mullin and Reid (2000a). It is clear, therefore, that the nature and process of assessment procedures and tests for bilingual pupils must differ from those for monolingual pupils. There are clearly difficulties in trying to identify a specific learning difficulty, as opposed to limited knowledge of the second language especially in Gaelic-medium immersion education where not only is there a range of abilities but also where the majority of pupils have limited contact with the second language outside the school.

The following section examines the importance of phonological awareness in the acquisition of literacy skills with consideration given to the development of phonological skills in different languages. Differences between English and Gaelic phonologies are explained as these play a part in a child's development of a second language.

Chapter 3: Phonological Skills

3.1 Overview

The aim of this section is to examine the role of phonological awareness and phonological processing skills in learning to read successfully. It offers a definition of phonological awareness; a description of the development of phonological awareness in early language acquisition; a discussion of how phonological awareness can be crucial in the process of learning to read and a brief description of the effectiveness of some phonological awareness programmes. It reviews previous research including the development of phonological skills in other languages including Gaelic.

3.2 Definitions

There has already been much research using various methodologies and in a variety of alphabetic languages demonstrating the strong relationship that exists between phonological awareness and the development of literacy (Adams, 1990; Bryant, 2002; Goswami, 2002; Hulme et al., 2002). The important role phonological awareness has in predicting reading performance will be discussed in Chapter 3.5. It is important to understand the definition of phonological awareness as confusion can arise with similar terminologies associated with sounds in words such as phonics, phonemic awareness* and phonological processing.

Phonics refers to the sound-letter correspondence used in teaching reading and spelling and phonic awareness is the ability to represent sounds with appropriate letters or letter combinations and their order within words (Gillon, 2004). Children are taught how speech is represented by the alphabetic code. There is no requirement for an understanding of the sound structure of words such as number of syllables or phonemes, or rhyme. In the past, phonics was taught in a drill manner: "a is for apple, b is for ball" and this was done in isolation from phonemic awareness.

Phonemic (or phoneme) awareness is the ability to notice, think about and manipulate individual phonemes (Gillon, 2004). It refers to the understanding that words are comprised of individual sounds that are blended into syllables. A phoneme is defined as the smallest unit of sound that influences the meaning of a word. It is also an important stage in phonological awareness. As there is a necessary connection between writing and speaking, one would expect the closest possible correspondence between the sounds of speech and the symbols of writing. In practice, this is rarely found, even in Gaelic. Phonological processing abilities are defined by Wagner and Torgesen (1987) as referring to the use of phonological information in processing spoken and written language. Indeed phonological processing involves phonological awareness but also involves the ability to code phonological information in the working memory and retrieving phonological information from the long-term memory.

Phonological awareness is just one aspect of metalinguistic awareness. This refers to one's ability to think about and reflect upon the structural features of language. Phonological awareness refers to conceptual understanding and explicit awareness that spoken words consist of individual speech sounds (phonemes) and combinations of speech sounds (syllables, onset-rime* units) (Briggs, 1997). It involves access to the 'phonological structure of spoken words, rather than just to their meanings and syntactic roles' (Scarborough, 1998, p. 85). Phonological awareness, together with syntactic, semantic, pragmatic and morphological awareness, influences a child's use of language, especially reading. A child must be able to hear and manipulate distinct speech sounds separately from the representation of speech sounds in print. Most of the syntax and morphology of a language are usually acquired before starting school, although development of the full use of discourse structure is not complete until the end of primary school (Scottish Office Education & Industry Department (SOEID, 1996). According to Muter (2003), phonological awareness refers to the appreciation of, and ability to process and manipulate the speech sound segments of words. A child must understand that a spoken word can be broken down into smaller parts in order to connect it with its written representation. This multi-level skill involves

syllable awareness, onset-rime recognition and phoneme awareness (Muter, Hulme, Snowling and Taylor, 1997).

Syllable awareness involves the segmentation of a word into parts. A child with good syllable awareness would be able to count the number of syllables in a word; complete a word by supplying first or last syllable; delete a syllable from a word. Treiman (1993, p. 18) described the following principles of syllable division for the English language:

- Every syllable in a word contains a vowel or vowel sound (*dad-dy*)
- Syllable division follows the stress pattern of a word with as many consonants as possible beginning a stressed syllable
- Syllables are divided according to consonant clusters

Onset-rime awareness refers to the awareness that syllables and words can be divided at the intrasyllabic level (Goswami and Bryant, 1990). This level of awareness is measured through rhyming tasks, as there has to be an understanding that words share a common ending (rime unit) that can be separated from the beginning (onset) in order to rhyme. Children with good onset-rime awareness can give a suitable rhyming word to complete a nursery rhyme; detect the odd rhyme out; and generate words that rhyme from a given example. The third level is when a child is aware of phonemes in speech as previously described. Teacher knowledge of phonological awareness will be discussed in Chapter 4.10 as it is important that teachers are familiar with the concepts described above if they are to administer an assessment of phonological awareness in English or in Gaelic.

3.3 Development

In early reading development, the child's developing knowledge of letters, sounds, words and aspects of a story is important but the process of learning to read starts well before entry to school. The skill of listening is by far the most important in the acquisition of language (Adams, 1990). Most infants produce vocal babbling and progress from vocal sounds to syllabic combinations in a seemingly unconscious manner according to Gillon (2004). These later syllabic combinations are influenced

by the phonology of the spoken language heard by the baby. New-born babies go through an intense immersion course in their native language, sometimes for as long as 15 or 16 months, before saying their first word. Even then, this long-awaited first word is usually mispronounced and incomplete. Speech is the spoken medium of language and babies practise the motor movement for speech in pre-linguistic vocalisations leading to the development of talking. In order for speech to be produced, there must be a subconscious processing or linguistic encoding involving the organisation of sounds which are quickly communicated to the throat in order to execute the oral articulation of speech. In normal language development, comprehension precedes the use of language; the average toddler may understand about 300 words but only use 150 of them (Osborn, 2005). As a child develops, s/he learns how meaningful sounds are made and combined until all vowels, diphthongs* and consonants, including blends, are able to be produced. This language development continues through interaction with peers as well as parents in purposeful communication.

Phonological knowledge develops as a child grows and the mastery of oral language is likely to be one of the most critical factors in a child's success in reading. There is a reciprocal relationship between phonological awareness and reading; children with a higher level of phonological awareness learn to read more easily and good reading skills further develop phonological awareness skills (Muter, 1996). Phonological processing research by Liberman et al. (1974) showed the close association of the development of speech, language and phonological processing, and the influence that this has on a child's ability to read and spell. Children who come to school with severe deficits in phonological, semantic and syntactic aspects of spoken language are highly likely to have difficulties with reading. Interestingly, children who have articulation impairment only and good phonological awareness skills are not at risk of literacy difficulties, according to Gillon (2004). The greater the consistency of correct productions in varied contexts, the higher the level of phonological knowledge and vice versa. During the preschool years, children begin understanding that print has meaning and that words consist of sets of sounds. This can pose a problem for those who have had little or no exposure to language, as can be noted

from the progress of young hearing impaired children. Deaf children who have not acquired fluency in a first language by the age of five do not subsequently catch up, either in signed or spoken language (Woll, 1998). Moreover, deaf children acquiring English generally do not follow the normal developmental pattern of acquisition, especially if language acquisition is delayed.

Children typically develop phonological awareness skills by stages (Adams, 1990) and the sequence of this development can be seen in Figure 1. At the rhyming level a child would be expected to recognise rhymes before producing them. Very young children have to learn to 'hear' a sentence and segment it orally into words. One example that shows the difficulty a child might have is 'Once upon a time – one supona time'. A child would need to be able to practise segmenting words into syllables before segmenting words into phonemes. Likewise, blending is easier than segmenting. All these skills are performed orally.

Figure 1. Stages of phonological awareness acquisition adapted from Adams (1990)
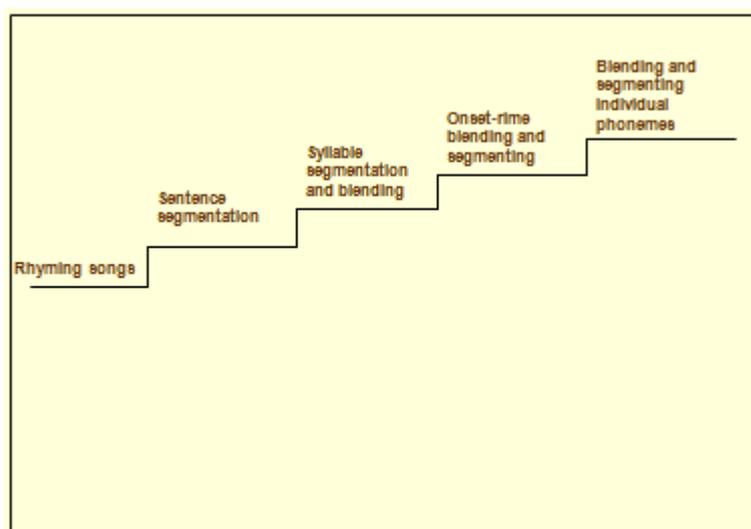
Pupils receiving their education through the medium of a language other than that heard from birth would appear not to be as affected by the lack of early oral language experience, however it could be said that the rate at which phonological awareness increases may be influenced. It certainly makes a teacher's job much more difficult when a child does not appear to be making good literacy progress, as the delay may be caused by a specific learning difficulty or could be attributed to lack of exposure

to the language. Recent research suggests that limited auditory experience does not necessarily prohibit the development of a phonological code such as an awareness of rhyme, syllable and word length (Swanwick, 1998). Direct training in phonological awareness skills will support reading development. Rathvon (2004) believed that children who don't have the oral language skills to compensate for deficits in phonological processing and decoding will need direct intervention to improve their verbal knowledge first. At present there are no assessment methods for teachers in Gaelic-medium schools to identify these deficits and it is hoped that this research will allow them to correct this.

3.4 Phonological Skills in Other Languages

Infants are born with the potential to learn any human language and may well have a 'language acquisition device', according to Chomsky (1965). Which language or languages they actually learn depends on which languages they have access to. For example, students who have learned to read in Spanish in a bilingual programme do not have to learn to read all over again when instruction begins in English according to Ada (1988). Gillon (2004) has identified that phonological awareness skills in a native alphabetic language can transfer to the learning of a second language. The native language to which a child is exposed however, influences performance on some phonological awareness tasks and affects a child's ability to use phonological information in reading and spelling. Thus, development of phonological awareness is not strictly language specific although some tasks of phonological awareness may be language specific. Cultures which don't have an alphabetic script may not necessarily develop phonemic awareness. Martin, Colesby and Jhamat (1997) believed that two phonological systems develop separately in children who learn one language after another. They suggested that a child would have two separate systems for processing the two different forms of speech input and output as well as storing two systems of internal representations in the memory. Similar processing strategies would apply to both languages and awareness of the segments of words in each would be based on two sets of phonological representations. Spencer and Hanley (2003) found that Welsh-dominant children had better phoneme awareness and non-word reading skills than English –dominant children and put this down to the

consistency of the orthography*. Interestingly they found that less able* Welsh-dominant pupils had fewer errors in word reading tasks.

There is an increasing interest in phonological awareness in languages other than English. Chiappe and Siegel (1999) assessed English-speaking Canadian children compared to Punjabi- speaking children on a range of phonemic awareness tasks. Results suggested that the development of phonological awareness in one alphabetic language transferred to understanding phonological awareness in a second alphabetic language. Studies by Comeau, Cormier, Grandmaison and Lacroix (1999) supported this view when they found children, bilingual in French and English, showed comparable phonological awareness skills in their native language and in their second language. They found that the cognitive processes involved in developing an awareness of the sound structure of words in one language can be applied to other alphabetic languages. However, Bruck and Genesee (1995) found that phonemic awareness was the best predictor of reading success for English-speaking pupils while for French-speaking pupils it was syllable awareness. This may be because of the transparency of the orthography. Tingley et al. (2004) compared phonological awareness skills of early French immersion and English children and found that French pupils performed better on English phoneme and syllable tasks than on French, and that English pupils performed better than French immersion pupils on French syllable tasks. Stuart-Smith and Martin (1999) also thought that only some tasks of phonological awareness may be language specific. Difficulties with oral phoneme segmentation tasks were noted in Panjabi but not in English. The implications of assessing phonological awareness in Gaelic is complicated by the fact that English is the first language for many pupils in Gaelic-medium education. It may be that Gaelic-medium pupils show comparable phonological awareness skills in Gaelic to those in English.

English speakers, when compared to Cantonese speakers, showed better phonological awareness abilities in English, according to Cheung, Chen, Lai, Wong and Hills (2001). Huang, Hanley and Richard (1994) found that English speaking British children had difficulty deleting the first phoneme in a CVC word, whereas the

children from Hong Kong found that an easy task. Aydin Yücesan and Banu (1999) compared the development of phonological awareness of Turkish/ English speaking 5-6 year olds. They found that Turkish speakers were proficient in handling syllables and deleting final phonemes as these patterns were related to characteristics of their spoken language. Oktay & Ebru (2002) conducted similar research with Turkish and English speaking American pupils and also found that the characteristics of a spoken language affect the development of reading skills. Cossu, Shankweiler, Liberman, Katz, and Tola (1988) reported that Italian children developed stronger syllable awareness skills earlier than English-speaking children. This is because some orthographies, such as Spanish, German and Italian, are phonologically transparent. Phonemes in these languages are represented by graphemes* which show consistency in respect of spelling patterns and are therefore less likely to cause reading difficulties.

Hulme and Snowling (2008, p. 45) described English as an "irregular, opaque, or deep orthography". Languages that have a deep orthography display inconsistencies between pronunciation and spelling that Lyddy (2005) believed may affect the development of reading. English, like Gaelic, has a morpho-phonological orthography in that its spelling is only partly based on phoneme-grapheme relations and partly on morphological consistencies within the language. Miles (2000) gave examples of how Welsh initial and final consonants can mutate making a word appear very different according to different contexts. In a similar way, Gaelic consonants can be lenited or softened at the beginning of words by adding *h,* or slenderised by adding *i* before a final consonant or group of consonants, both of which change the pronunciation of the original word. Muter (2003) suggested that the language in which a child is learning to read is an environmental factor that can affect ease of literacy acquisition, especially in children who may be predisposed to reading problems. This can be a problem in Gaelic-medium education especially in areas of Scotland where there few opportunities to read Gaelic outside the classroom.

A number of studies have looked at the link between phonological awareness and reading in both a bilingual child's languages. Chiappe and Siegel (1999), Martin et

al. (1997) and Da Fontoura and Siegel (1995) all agreed that phonological assessment had the potential to identify bilingual poor readers. In English-medium schools the optimum time for this assessment is shortly after a child starts school, as discussed in Chapter 4.5, but many children in Gaelic-medium classes will have had limited exposure to Gaelic. Cummins (1984) believed that pupils need at least five years academic exposure to L2 for cognitive/academic competence or cognitive academic language proficiency (CALP) and that only surface competence is acquired within two years of exposure - basic interpersonal communicative skills (BICS). In Figure 2, in the BICS/CALP matrix (National Association for Language Development in the Curriculum [NALDIC], 2010, ¶7), the *x* axis represents the range from 'context embedded', where the learner uses external clues such as pictures or gestures to aid understanding, to 'content reduced' where the learner relies more on linguistic cues and knowledge about language to aid understanding.

Figure 2. BICS/CALP matrix (National Association for Language Development in the Curriculum, 2010)

Cognitively
Demanding

Analysing
a poem

Context   Context
embedded   reduced

Matching
words to
pictures

Cognitively
undemanding
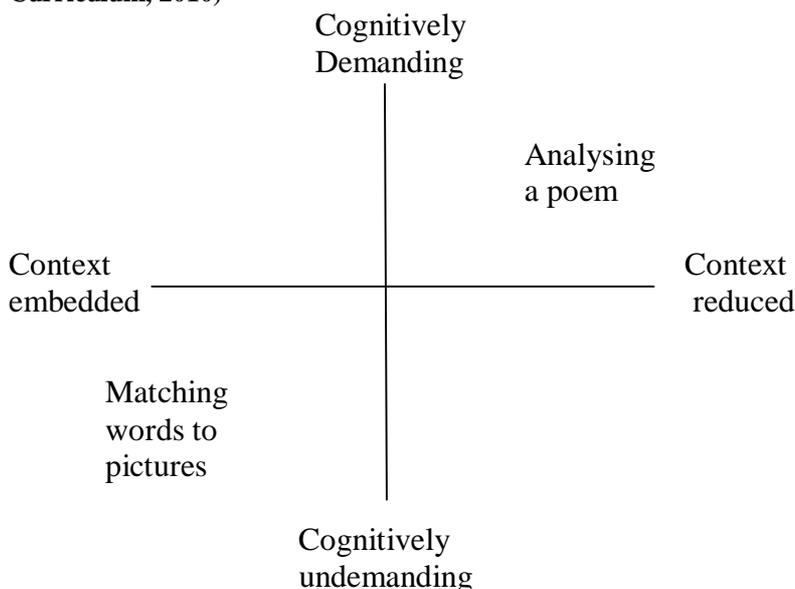
Guron and Lundberg (2003) investigated whether phonological awareness could be assessed in the majority language of bilingual pupils and found that if they had been given sufficient exposure to the majority language, then phonological skills of minority language speakers could be assessed using the same tests as for native speakers. One difficulty in the Gaelic-medium classroom is the fact that some children will be fluent Gaelic speakers from an early age, whereas others might have

very little Gaelic. It would appear to be reasonable for a teacher to delay an assessment of phonological awareness until a pupil has sufficient vocabulary and knowledge of Gaelic. A teacher needs to have some means of assessing all pupils. The target language of teaching is Gaelic and all teaching resources are in Gaelic, so an English assessment would not be appropriate. Morfidi and Reason (2000) claimed that pupils who show oral competence to a reasonable level can be assessed accurately. The development of tasks to measure phonological awareness must be sensitive to the phonology of the language. Goswami (2010) argued that the progression in phonological awareness described in Chapter 3.3 is universal across all languages. Everatt et al. (2000) and Frederickson and Frith (1998) both concluded that the assessment of phonological processing skills is useful in identifying dyslexia in bilinguals. The current study should aid teachers of Gaelic to do this.

3.5 Phonological Awareness as a Predictor of Reading Ability

Two questions have engaged the interest of researchers in the area of phonological awareness and its ability to predict whether a child will experience difficulty with reading or not. First, there is the analogy theory where researchers argue that rhyme awareness in pre-school can predict reading performance at school. According to Bradley (1989); Goswami and Bryant (1990); Wood and Terrell (1989), the earliest prediction of reading success is the child's knowledge of rhyme and phonology. These researchers believe that knowledge of rime units helps children to read and spell new words through analogy to known words. They suggest that readers access the stored pronunciation of words with similar spelling patterns rather than mapping individual letters to corresponding phonemes. Rather than decoding a new word phoneme by phoneme, a child uses his knowledge of rime units. However, Goswami (2002) went on to state that phonemes and rimes are necessarily closely linked because of the phonology and orthography of the English language. This is not purely a visual skill of learning letter patterns but is linked to the development of speech processing skills. Although this development includes syntactic and semantic skills, most research considers phonological processing skills to be a necessary part of speech acquisition. Teaching children to identify rhyming words, to produce

rhyming words, and to blend words at the onset-rime level will assist children to learn to read through analogy to known words.

Second, the study of skills at the phoneme level is believed to predict reading progress. Gillon (2004) found that school-age children's phoneme awareness skills are stronger predictors of later reading ability than rhyme awareness skills; especially important are phoneme identity, phoneme segmentation and deletion tasks. In an Australian study of the predictive power of phonological awareness ability, Share, Jorm, MacLean and Mathews (1984) found that knowledge of letter names and phoneme segmentation performance were the two strongest predictors of reading ability. Muter (2003) examined current ideas about how young children begin to acquire reading skills and looked at the difficulties some children have in learning to read. She drew particularly on research that focused on the language abilities that children need to have in place in order to facilitate early reading. The link between phonological abilities and the acquisition of letter knowledge is strongly highlighted, but attention is also paid to other reading-related language skills and to the role that parents and teachers play in promoting good early reading development. Muter and Snowling (1998) conducted the study of children, who were tested at age four, five, six and nine, to see whether differing levels of phonological awareness (onset-rime and phoneme levels) as well as short-term memory skills would predict later reading development. Phoneme deletion ability did significantly predict reading ability whereas rhyme detection and rhyming ability did not. Many studies have demonstrated the predictive role of phonological awareness in reading acquisition, and Liberman and Lundberg were among the first to study these questions. While learning to read involves much more than learning to name letters and recognise their sounds, there is a good deal of evidence suggesting that learning letter names and sounds and the relationship between them is an important part of early literacy development and makes an impact on reading success. Liberman (1971) established a relationship between reading success and awareness of the sound structure of words. If a child has difficulty identifying component sounds of words, s/he will have difficulty relating the sounds to the letters. Lundberg, Olofsson and Wall (1980) first investigated the possibility of predicting reading and spelling based on

phonological awareness ability. In the study of 133 Swedish children aged 6-7 years, they administered tests of phonological awareness (syllable segmentation and blending tasks), rhyme production, phoneme segmentation and blending tasks and phoneme detection and manipulation tasks. Word recognition and spelling tests were administered in Grades 1 and 2. The results indicated that performance on phoneme manipulation tasks were the strongest predictor of reading and spelling in Grade 2 and was the strongest predictor of reading ability among all the tests given.

For the last few decades one area of research has been word recognition. Stanovich, Nathan and Zolman (1988) and Gough and Tunmer (1986) recognised the importance of efficient word recognition to the development of reading comprehension. Stanovich (1984) viewed reading as an 'interactive-compensatory' process, suggesting that good readers are able to recognise words rapidly through automatic word recognition. However, the purpose of reading is to gain meaning, not just to recognise words rapidly. There is abundant evidence that difficulty in learning to identify printed words is causally related to significant difficulties in acquiring phonological analysis skills and mastering the alphabetic code regardless of whether causes appear to be intrinsic to the individual or reflect environmental or instructional influences (Vellutino, Fletcher, Scanlon & Snowling, 2004). They believe that one does not need high cognitive ability to decode print. What matters for decoding are relatively low-level phonological skills such as phonological awareness, facility in alphabetic mapping, name encoding and retrieval. Therefore, there is consistent evidence that word identification problems that lead to difficulties in establishing connective bonds between a word's spoken and written counterparts are causally related to deficiencies in phonological awareness, alphabetic mapping and phonological decoding.

Taking this further, Ehri (2005) found that alphabetic knowledge enhanced children's learning of unfamiliar vocabulary through four distinct phases. Pre-alphabetic, partial, full, and consolidated alphabetic phases all form the development of sight word reading. In the mechanics of reading most individual words that are recognised immediately without analysis are called sight words. Through their frequent use,

these words are usually recognised effortlessly by most readers. Unfamiliar words can usually be sounded out through knowledge of letter and sound patterns. If pupils are unable to sound out words then their ability to become good readers will be problematic. The process of learning sight words involves forming connections between graphemes and phonemes to bond spellings of the words to their pronunciations and meanings in memory. Difficulties reading sight vocabulary will hinder a child's reading accuracy, fluency and understanding of text. Without intervention, a gap between a pupil's reading level and his/ her chronological age can widen.

Bradley and Bryant (1983) demonstrated a causal connection between phonological awareness and reading and spelling performance. They designed a training study for 65 four- and five-year old British children over a period of two years. Divided into four groups, the children received the following:

Group 1 - training on categorising words based on common phonemes

Group 2 - the same training as Group 1 plus letter-sound knowledge

Group 3 - training in semantic categorisation

Group 4 - no training outside normal class teaching

The results revealed that the children in Group 2 were significantly better spellers and readers than those in the other three groups. The researchers concluded that phonological awareness ability prior to school has a powerful influence on both reading and spelling achievement. The following areas were found to be reasonable predictors of later reading by Blatchford (1987): vocabulary, asking the child to write his/her name or to copy a sentence; concepts about print; letter identification; reading and phonological awareness.

The wealth of evidence suggesting a causal link between phonological awareness and effective reading justifies the numerous interventions concerned with how phonological skills in English can be improved (see Hatcher, 2000; Schneider, Ennemoser, Roth and Küspert, 1999; Simpson, 2000; Muter and Snowling, 1998; Vellutino et al., 2004; Uhry & Shepherd, 1997). From this it would appear appropriate to investigate whether or not there is a similar link in Gaelic.

3.6 Synthetic Phonics versus Analytic Phonics

Lundberg, Frost and Peterson (1988) affirmed that phonological awareness can be taught before formal reading. Their research with 400 6-year old children indicated that some pupils, including those with a specific learning difficulty, do not acquire phonic skills incidentally and need structured, direct instruction and practice: the synthetic phonic teaching approach.

In synthetic phonics, children are taught to convert graphemes into phonemes then to blend them together to generate the pronunciation of the word using a part-to-whole approach. In 'Jolly Phonics' (Lloyd, 1998), a commercial application of synthetic phonics, all the onsets are taught over a few weeks at the beginning of Primary 1 and the child experiments with letter order using single letters on magnetic boards discovering words from his/her vocabulary. Most of the letter sound correspondences, including the consonant and vowel digraphs*, can be taught in the space of a few months at the start of their first year at school. This means that the children can read many of the unfamiliar words they meet in text for themselves, without the assistance of the teacher. Letters are shown in all positions in words and the child learns how language is mapped onto symbols through playing with the letters. There is a great emphasis on blending, both as an oral exercise and with printed words. Additionally, a set of irregular words are taught as sight words. Blends are introduced much earlier than usual and actual reading of words in sentences does not commence until the whole sound-system has been explored. 'Letterland' (Wendon, 1985) phonics scheme is a multi-sensory* system for teaching children to read that uses a synthetic phonics approach by using a series of alliterative letter characters which give strong visual mnemonics to help children remember phoneme/ grapheme correspondences. Conversely, in analytic phonics, the predominant method in the UK until recently, letter sounds are taught after reading has already begun, children initially learning to read some words by sight, often in the context of meaningful text. Whole words are presented and pronounced by the teacher, and the children's attention is only subsequently drawn to the information given by letter sound correspondences. Many schools used analytic phonics teaching with a 'look and say' approach to reading where the letter-sound

relations were examined once a word was known. This whole-to-part approach relies on good visual skills and does not offer a strategy for tackling an unknown word. By using synthetic phonics, pupils can blend and have a strategy for reading and spelling a word from the outset.

Phonics programmes usually follow an order of instruction which starts with single sounds for individual letters building up to simple CVC (consonant - vowel - consonant) words progressing through initial consonant blends, final consonant blends, and so on. Some children appear to cope, some find difficulties at some stages and a few do not seem to progress beyond the single sound stage. Research by Treiman (1991) and Goswami (1997) into the development of phonological awareness suggests that children follow a different pattern to that outlined in traditional programmes. They found that from the first awareness of utterances being made up of a sequence of separate words, the children then become aware of syllables within words. The next step is onset and rime where the onset is the first phoneme and the rime is the remainder of the syllable. The final stage is when individual phonemes are recognised implying that the single sounds of letters cannot be recognised until later.

Children can be taught to read at the phoneme level using blending and segmentation techniques. As well as learning letter-sound correspondences, they learn that the sequence of phonemes in speech maps onto the sequence of letters in writing. In a study by Sumbler and Willows (1996), two groups of children followed either a 'Jolly Phonics' programme or a "whole language" approach, where pupils learn to read sentences and are encouraged to make sense or guess the individual words (Ott, 1997). When tested after the training, the children who had received 'Jolly Phonics' scored higher, not only on letter knowledge tasks but also on standardised reading and spelling tests.

Johnston and Watson (1999, p. 11) reported on the findings of their study into the teaching of phonics in Scottish schools. Their research showed that synthetic phonics used in the teaching of English reading reduced the number of

underachievers and produced the best outcome in reading achievement. "Children who trained for 20 minutes a day for 16 weeks had reading levels seven months ahead of what would be expected for their chronological age." This research, involving 300 pupils in Clackmannanshire, Scotland, continued over a seven-year period and the most recent results suggest that the reading age of children who took part was more than three years ahead of their chronological age by the time they left primary school. Researchers found that by the end of the second year at school the children in the early synthetic phonics programme had better spelling ability, and the girls had significantly better reading ability. After seven years, however, boys were nearly a year ahead of girls in reading, more than eight months ahead in spelling and three months ahead in comprehension (Johnston & Watson, 2005). By the end of the study boys were found to be reading words significantly better than girls, and there was a trend towards better spelling and reading comprehension. However, Ellis (2007) has expressed concern that educational policy is being dictated by the success of one study that concerned different amounts, speeds and types of phonics programmes within an early intervention programme. Word recognition skills rather than reading comprehension were increased.

The best predictors, at pre-school age, of later success in acquiring literacy are knowledge of phonology and knowledge of letters. It has also been shown that simple concepts about print predict reading success to some limited success in the first year at primary school. Before starting school, a child needs the experience of listening to many stories and sharing books, as the conventions of print can be introduced and a child can be encouraged to enjoy books. Chapter 2.4 discussed the reasons why parents are encouraged by head teachers, Comann nam Pàrant (Parent Association) and CNSA (now TAIC) to immerse their child in as much Gaelic as possible before starting school. Some children start school with advanced language skills and are able to recognise most letters of the alphabet, write their own name, read some words and recite several rhymes. In fact, a child's phonological awareness has been described as the best single predictor of reading performance (Liberman, Shankweiler & Liberman, 1989; Lundberg et al. (1980) and that is the

reason why this study has concentrated on this aspect in particular when developing a tool that will help to prevent failure in reading in Gaelic.

3.7 The Language Structure of Gaelic

In learning aspects of phonology in a new language, children have to hear and pronounce words for the first time and listen for the unique sounds, rhythms and intonation that feature in this second language. In English, spoken and written language share the same sound system, structure and vocabulary (Caldwell, 2008). The structure of sentences is the same whether spoken or written, for example, 'I gave him it'. However in Gaelic, most sentence structures follow verb-subject-object, for example, '*thug mi e dha'*, literally 'gave I it to him'. This means that unless a child has acquired the language orally first, there may be difficulties learning to read and write in Gaelic. Not only do children have to learn how to string sounds together to form words but they also have to learn how words come together to form correct sentence structure. Munro et al. (2005), while seeking diagnosis and treatment of phonological disorders in Welsh-English bilingual learners, found that although data on phonological development existed in many languages it did not exist for minority languages such as Welsh. This is also the case for Gaelic.

Gaelic-speaking communities have declined dramatically during the present generation of teachers, which produces in itself many challenges, especially from cross language interference. Until very recently, most reading programmes used in Gaelic-medium schools were translations of English ones or were based on their methodology and vocabulary. Most early readers and writers are learners of the Gaelic language and are learning to speak the language from the beginning and often rely on English phonology upon which to build sound/letter relationships. Ionad Chaluim Chille Ìle (2003), in their Phonics Report, concluded that the synthetic phonics approach, as part of the reading curriculum, is more effective than the analytic phonics approach, even when it is supplemented with phonemic awareness training. The report suggested that it might be worth giving serious consideration to adapting it for the teaching of Gaelic. Further recommendations from their report follow.

Both English and Gaelic are alphabetic languages but where English contains 26 letters, Gaelic has only 18. English, however, has only 36 sounds with 44 letter combinations (Ionad Chaluim Chille Ìle, 2003). In Gaelic, only 13 consonant symbols (*b, c, d, f, g, h, l, m, n, p, r, s, t)* are used to represent nearly 30 different consonant sounds and when added to vowels there are 80 sounds with hundreds of letter combinations. This means that traditional teaching of sound-letter correspondence to decode phonically regular words in English will not work in a language where the sounds are more important than the letters. Ionad Chaluim Chille Ìle (2003) named several reasons why traditional teaching methods are not suitable. They stated that Gaelic is phonologically more complex than English largely because of variations of initial and final sounds. A smaller number of symbols are used to represent a much larger range of sounds in Gaelic. Often phonically simple English words have much longer Gaelic translations which make them unsuitable in the early stages, for example the two-syllable word '*thinking*' in English translates as the four-syllable word '*a' smaoineachadh*'.

The pronunciation of onset consonants is not clearly distinguished and can be confusing. The English letter 'c' can appear as *cat/ circle/ chair* but 'c' in Gaelic has a greater variation, for example, *cat/ cnoc/ ceò / cha/ chluich/ aca* depending on the proximity of stressed syllables or slender vowels (Ionad Chaluim Chille Ìle, 2003). One distinction between Gaelic and English is that some letters that stand for sounds that use the voice in English actually stand for sounds that do not use the voice in Gaelic, for example *th* in *fhathast*. Here it could also be noted that there are differences in dialect in Gaelic, for example *mh,* which always makes the sound /v/ at the start of a word, can in some dialects make the sound /w/ when in the medial position as in *làmhan.* Research by Munro et al. (2005) into phonological disorders highlighted substitution patterns used for consonants present in Welsh but not in English. In English, the basic principle of phonics is that reading can be taught by relating a known sound to a letter or combination of letters. Written language can then be systematically decoded by sounding out the building blocks of each symbol. In English, one sound can be represented by one, two or more letters, for example, *z,*

p, sh, ng, igh. One sound can be represented by different spellings, for example, *o, oa, ow, o-e, ough.* One spelling can represent multiple sounds, for example, *cough, though, thought, through, bough.*

Gaelic orthography is actually a lot more phonemic than English; that is to say there is a more regular and direct correlation between the letters and the way a word is said. Lyddy (2005) commented that Welsh and Irish also have relatively transparent orthographies. Research by Ellis and Hooper (2001) demonstrated that the orthographic transparency can have a profound effect on the rate of acquisition and style of reading adopted by its speakers. Primary 2 English-medium pupils were compared with Welsh-educated bilingual pupils. The study showed that Welsh-medium pupils could read aloud accurately significantly more of their language than could English-medium pupils. Observations suggested that Welsh pupils relied more on an alphabetic decoding strategy. When it comes to writing, Gaelic uses fewer symbols (18 compared to 26 letters in the alphabet) but uses a more 'phonetic' system. This means that the correspondence of individual sounds to their written form is more regular and so for early-readers an unknown word is more predictable because the system is more regular. However, a difficulty arises from the fundamental fact that a vowel sign in any Gaelic word can be performing one, two, or three possible functions within a word. English has over 10 different vowel sounds, Spanish has only 5; Cantonese has 7 different tones to distinguish words, Russian none; Mandarin uses over 10,000 characters to write. In fact, MacFarlane (1898, p. 5) wrote " although the Gaelic is perhaps as easily read as most languages, it takes, probably, the longest time to write of any of those represented by the Roman alphabet." Gaelic uses the five vowel symbols *a, e, i o, u,* to represent a large number of Gaelic vowel sounds. This is achieved by using accents and by combining the five vowels in a variety of ways; for example, long vowels are indicated by means of accents – *bata* and *bàta* where the medial 'a' in the first word is /a/ and /ã:/ in the second word. Examples of these can be seen in Appendix I. Lenition or softening is a process whereby certain consonants, which appear at the beginning of words, are made 'softer'. This is indicated in writing by adding an *h* to the consonant as in *Mhàiri*.

There are few cases where any Gaelic consonant is exactly equal to an English one (MacFarlane, 1898). In Gaelic, the consonants may be divided into two groups, the 'broad' consonants and the 'narrow' or 'slender' consonants. The vowels surrounding a consonant determine the nature of the consonant. For every broad consonant, there is a corresponding narrow consonant; so one can speak of a broad and slender *s, d* and so on. The slender consonants group with the slender vowels *e* and *i*, the broad ones group with the broad vowels *a*, *o* and *u* so that a consonant with slender vowels on either side has a slender value and vice versa. A word is slenderised by inserting *i* before the last consonant or group of consonants. The *i* before a final consonant indicates that the letter is to be pronounced differently; that is the same as a slender consonant which means that *l* can be pronounced in two ways - way back in the mouth like in *càil* or forward as in *càl.* The change of broad *l* to slender *l* is called slenderisation. The only difference between these two words is in the way the consonant is pronounced. This process of slenderisation only occurs at the end of words and is used to create the plural form of some nouns. When choosing vocabulary for inclusion in the development of a screening tool for young Gaelic learners it is important to remember these differences in sounds but the fact that the majority of pupils will have been using English and possibly living in an English speaking environment should also be taken into account.

Verhoeven (2007) claimed that bilingual children can attain high levels of phonological awareness as they are exposed to two sets of linguistic input and phonotactic* aspects of language. Phonotactics defines the permissible structures of syllables, vowel sequences and consonant clusters in a language. Syllable onsets and codas in English can have one, two or three consonants, for example, *plump, thrush, hearth*, but are limited in the set of possible combinations. The possible consonant blends allowed in Gaelic can be seen in Appendix I. There are different phonotactic constraints in Gaelic from English, for example, words like *orm* and *falbh* have a vowel-like intervening element or svarabhakti*. Some final consonant clusters in Welsh can also cause vowel svarabhakti. Vowels can be nasalised in Gaelic mainly where they occur near the letters *m, n, ng, mh.* Further complications occur when

vowel diphthongs are not joined together. Where two adjoining vowels are treated as separate vowels a slight glottal stop can occur, as in *latha*. This has been referred to as hiatus by Akerbeltz (n.d.) who also stated that vowel length in Gaelic is extremely important compared with vowel length in English. N. Smith (1999) described the syncope*, or loss of sounds from the middle of a word, often containing letters that are silent like g*h, th* such as *gobhar, saoghal* or *fhathast*.

The structure of rhyme in Gaelic is highly complex making syllable structure in Gaelic extremely involved according to N. Smith (1999). He described several reasons for this, namely: vowel syncope, epenthetic vowels (insertion of extra sounds in a word), svarabhakti vowels, simultaneous syncope and svarabhakti, and vowel lengthening before sonorants. There is also some variation of pronunciations according to the dialect of the region. Rhyming in Gaelic is somewhat different from English in that the focus is usually on the vowel sounds with no reference to the consonants at the end of the rhyme syllable. The stress falls on the first syllable in Gaelic words therefore the rhyme vowel is often found in the penultimate syllable rather than the end syllable. This can be seen in many of the Gaelic songs that have been passed on through the oral tradition as well as in newer poems and rhymes written more recently. An example of this can be seen in An Comunn Gaidhealach Leòdhais' collection of Lewis Gaelic Songs (1938) in '*Eilean an fhraoich'* written by M. MacLeod:

An t-Eilean ro mhaiseach, gur pailt ann am biadh;
'S e Eilean as àillt' air 'n do dhealraich a' ghrian;
'S e Eilean mo ghràidh-s' e, bha 'Ghàidhlig ann riamh;
'S cha 'n fhalbh i gu bràth gus an tràigh an Cuan Siar!

Another example from the same collection can be seen in the eighteenth century song '*Is truagh nach d' rugadh dall mi'* by Uilleam Ros*:*

Is truagh nach d' rugadh dall mi gun chainnt' is gun léirsinn
Mus fhac mi d' aghaidh bhainnte rinn aimhleas nan ceudan
Bho 'n chunnaic mi bho thùs thu , bu chliùiteach do bheusan,
'S gum b' fhasa leam am bàs, na bhi làthair as t' eugmhais.

Philip (2008) cited a good example of this in a poem by Meg Bateman written in 1997 where the last words of the first four lines end *thàladh/ ghàire/ làmhan/ mhàlda*. It is not uncommon for the rhyme to be placed on the vowel syllable just before the penultimate syllable as in Niall MacLeoid's poem '*Thoir mo shoraidh thar an t-saile*' (1975):

*Far am biodh na h-òighean g**u**anach,*
*'S fhad a chluinnte fuaim an d**u**anaig,*
*Dol le 'n cuman is le 'm b**u**araich*
*Mach gu buailidh a' chr**u**idh laoigh.*

Teachers and pupils are often uncertain of the 'correct' orthographic spelling in Gaelic as there is some inconsistency in reading materials, posters, reference materials and displays. Official Gaelic usually, but not consistently, complies with the Scottish Examination Board's 'Gaelic Orthographical Conventions (GOC)' (Scottish Examination Board, 1981). This document described the findings of a sub-committee of the Scottish Certificate of Education Examination Board (SCEEB) who were requested by the Gaelic Panel to investigate issues pertaining to Gaelic orthography. GOC provides the standard for the rapidly expanding Gaelic sector of the schools system and for the great majority of Gaelic books, as a result of the policies of Comhairle nan Leabhraichean (the Gaelic Books Council). The Scottish Qualifications Authority have since reviewed and updated this document and the revised publication was published in 2005. However, there still exists considerable variation. The publication of school texts in technical subjects using new or scientific terminology has increased the vocabulary available and various new dictionaries, such as the 'Gaelic Terminology Database', and 'Brigh nam Facal' have appeared in recent years to complement the somewhat outdated 'Dwelly's Gaelic Dictionary' which was written between 1901 and 1911.

This section has highlighted how some tasks of phonological awareness may be language specific depending on the phonology of the language but in general the development of phonological awareness in one alphabetic language may be transferred to help understanding phonological awareness in a second alphabetic

language. Certain aspects of Gaelic phonology make it quite distinct from English despite having a more transparent orthography.

The next section considers the importance of identifying any weakness in phonological awareness at an early stage of a child's education and examines the tools that are used in this process. Current methods of identification in Gaelic-medium education are discussed.

Chapter 4: Early Intervention and Assessment

4.1 Overview

The Education (Additional Support for Learning) (Scotland) Act 2004 legislated that education authorities must put in place adequate and efficient arrangements to identify children with additional support needs. Although Baseline Assessment is not mandatory in Scottish schools, as it is in England and Wales, it was recommended in 1998, by the Scottish Office Education and Industry Department (SOEID), that a baseline assessment scheme should be used. The main purpose of a national scheme for Scotland would be to inform learning and teaching by providing a baseline against which a child's progress might be recorded. As Gaelic-medium education had been in existence for little more than a decade at that time, no baseline scheme was developed for Gaelic-medium, nor has one been created since.

This section will consider the process of identifying children who are at risk of failing in literacy development, the causes of this literacy failure and implications for Gaelic-medium pupils in Scotland; the general principals of assessment apply to this population. Prior to discussing specific phonological awareness assessment tools, a theoretical understanding of assessment in education is given. The methods of identification currently available in Gaelic-medium schools are examined and the socio-cultural aspects of assessment transfer L1 to L2 explored.

This section will describe what is meant by Early Intervention and looks at different approaches that can be adopted once early identification has been made. It will examine the need for prevention of failure and will investigate a variety of strategies and initiatives that can have a positive effect on a child's literacy skills and will look at how these are achieved in Gaelic-medium immersion education. It will look at the important roles of teachers, other professionals and parents as well as discussing other factors such as whole-school policy and continuing professional development.

4.2 Causes of literacy developmental delay

"Writing is one of the greatest inventions in human history.... Without writing, there could be no accumulation of knowledge, no historical record, no science – and of course no books, newspapers or internet" (Robinson, 2009, p. 8). In order to access writing one has first to be able to read. The Committee on the Prevention of Reading Difficulties in Young Children (1998) found several risk factors that could affect children's reading. Although these factors referred to reading in English, most of them are just as relevant for young pupils receiving their education through the medium of Gaelic. Hearing impairment and other medical conditions that result in reading problems as a secondary symptom can be apparent in speakers of any language. Some children may have a specific early language impairment or have limited proficiency in spoken English. A child may have a parental history of reading difficulties though this is sometimes not discovered until a child has been identified as failing to make progress. Perhaps a child has acquired less preschool knowledge through the lack of appropriate literacy experiences or belongs to a low-income family. A child may speak a dialect of English that differs from the one used in school. Lack of age-appropriate skills in phonological awareness and story recall or general language ability are also contributory factors. In some cases, reading difficulties are encountered through attendance at schools in which achievement is chronically low.

With the exception of the last factor (Gaelic-medium units/schools are usually attended by children of parents who are more interested in educational issues; research by Johnstone et al. (1999), brought reassurance about the attainments achieved by pupils), these factors could all be encountered in Gaelic medium-education in Scotland, providing the factors pertained to the Gaelic language instead of English. Being able to detect problems early can not only avoid problems later on but reduce the cost of support required. Infant screening procedures are already in place to identify the milestones of a child's development before school, so certain physical factors, such as deafness, specific language impairment and other medical conditions should probably be identified early on by paediatricians. Other factors will probably be identified on school enrolment. Many children may have limited

proficiency in spoken Gaelic initially. Environmental and social factors concerning parental history of reading difficulties, poor home pre-school literacy experiences and low-income families can be found in Gaelic-medium schools just as in any other school. It is, however the lack of age-appropriate skills in phonological awareness and language ability that remains the hardest to identify. A screening tool in Gaelic designed specifically to try to identify literacy-related cognitive-linguistic processing skills would enable the effective provision of appropriate intervention.

Most reading problems have their origins in pre-school spoken language deficits, according to Muter (2003, p. 114). "Whether a disorder such as dyslexia manifests itself in a reading difficulty very much depends on the complex interaction of the at-risk child's deficient language processes with the learning environment to which he or she is exposed." Snowling and Stackhouse (1996) believed that poor readers differ from normal readers with respect to phonological processing skills. Skills close to the core of dyslexia include aspects of phonological awareness. The International Reading Association newsletter, Reading Today, 1998-99, published a survey showing that phonological awareness had been voted what it called the `hottest' issue in literacy education of 1999. This came at a time when the educational focus was on interventions aimed at the improvement of early reading skills and an improvement of phonological awareness was suggested to effectively promote these skills (Lundberg, Frost & Peterson, 1988; Vellutino et. al., 2004).

Learning to read in any alphabetic language involves the development of phonological ability although Seymour (2003, as cited in Lyddy, 2005) stressed that French, English, Danish and Portuguese were all orthographically deeper languages than other European languages and that children required longer to achieve literacy. Everatt et al. (2000) assessed groups of English monolinguals and Sylheti/ English bilinguals for dyslexia and found the phonological measures in particular presented consistent findings. They suggested that there could be benefits for bilinguals to have the same screening procedures as those devised for monolingual children. As previously discussed, phonological processing difficulties include problems storing,

retrieving and using phonological codes in memory as well as deficits in phonological awareness and speech production, according to Catts and Kamhi (1999).

Over the years there have been several hypotheses to explain the existence of dyslexia (Snowling & Stackhouse, 1996; Ott, 1997; Reid, 2003; Gillon, 2004): phonological deficit - a difficulty decoding sounds or spoken language affecting spelling and reading development; visual processing deficit – problems decoding visual information that inhibit normal reading and spelling; automaticity impairment – impairment in fluency in decoding textual information; developmental delay – general immaturity in neurological development making reading and spelling develop slowly; central executive control dysfunction – information from verbal and visual pathways are not integrated inhibiting reading and spelling development; transient magnocellular deficit – difficulty responding to rapid changes of sound or visual information. Other difficulties noted by Crombie (1997), Goswami (1997), Rack (1994), Snowling, Van Wagtendonk and Stafford (1988) include the ability to sequence, short-term memory, speed of language processing and word finding. Snowling, Goulandris, Bowlby and Howell (1986, p. 80) argued that pupils with dyslexia are 'slow to acquire precise phonological representations for words which are nonetheless semantically represented.'

Whatever the hypothesis, it is recognised that dyslexia is a collection of conditions characterised by poor reading and/ or poor spelling with a number of cognitive processes involved producing different patterns of strengths and weaknesses in different children (Squires and McKeown, 2003). It has been a topic of research for more than a century often described as "word blindness" (Hinshelwood, 1900; Morgan, 1896). However, the relationship between phonological awareness and dyslexia has dominated research literature in the last few decades (Gillon, 2004; Muter, 2003). Difficulties with awareness, retrieval of verbal sounds and coding have long-reaching effects on reading (Smith, Simmons & Kime'enui, 1998).

4.3 Theoretical understanding of the purposes of assessment

Assessment should be based on an understanding of how pupils learn. Reid (2003) suggested that assessment is a 'dynamic process' involving a range of strategies that are best integrated into the everyday learning context over a period of time. Some of these factors concern gathering information about a pupil's early development, such as crawling and talking as well as the family history. The age and stage of a pupil is important and all records of previous intervention or educational history should be taken into account. Information on attainments should be obtained and considered carefully alongside cognitive factors. The pupil's learning styles and preferences should be identified alongside the teaching styles in use (MacKay, 2006). The type of assessment chosen needs careful consideration, according to many of the preceding factors. Sodoro, Allinder and Rankin-Erickson (2002) emphasised the need for an assessment tool to be based on the type of information required. Caldwell (2008) believed the assessment process begins with finding out what to assess, collecting evidence, analysing the evidence then making a decision thus involving a four-step process.

The purposes of assessment need to be quite clear and the choice of individual tests needs to be justified (Cline & Shamsi, 2000). Different assessments may be needed for different purposes. It is important that teachers understand the nature of an assessment, the reasons for its administration and the benefits to be gained in future teaching and learning. The purposes of an assessment determine the uses made of the results (C. Ward, 1980). Traditionally, assessment was based on the broad purposes of teaching and learning but since the introduction of national testing in Scotland in the 1980s, assessment is increasingly used to raise perceived educational standards.

Thus, assessment can measure attainment and evaluate teaching of the curriculum. The Gaelic 5-14 Guidelines gave a detailed description of attainment outcomes for each curricular area for fluent Gaelic speakers (Johnstone et al., 1999). The 5-14 assessments are used to check what has been learned and to review progress. The specialist teacher will require to test and re-test to detect progress on a regular basis,

according to Turner (2002). Assessment can also be used to identify a baseline for a pupil and help to confirm what a teacher suspects of a pupil's strengths or weaknesses, but as previously mentioned, no baseline assessment exists for Gaelic-medium education. This could enable a teacher to identify appropriate teaching resources and inform instruction. Wilkinson, Watt, Napuk & Normand (1998), following their review of developments in the construction and uses of baseline assessment in England and Wales, as well as pre-school assessment in Scottish schools, felt that such assessment could provide the basis for planning future learning. Certainly this does not appear to have changed, as *A Curriculum for Excellence 5* states that "staff should use assessment information from a wide range of sources to monitor learners' progress and plan next steps in learning" (Scottish Government 2010, ¶15). Further discussion of *A Curriculum for Excellence*, which is replacing the 5-14 Guidelines, and assessment of progress in literacy and Gaelic takes place in Section 4.4.

Assessment can be predictive in nature, to obtain information on how a pupil may perform in future aspects of the curriculum. Snowling and Stackhouse (1996) thought that children identified through assessment to be at risk of suffering reading difficulties can make up the gap at an early age much more easily and quickly than older children. A child can be assessed for diagnostic purposes, to provide information that can throw some light on a pupil's difficulties, for example, particular patterns of difficulty. These patterns may be cognitive in nature, such as memory, organisation and speed of processing. Certain patterns may also be recognised in phonological awareness, word recognition, spelling errors, omission of letters, words or parts of words and reversals (Ott, 1997). A difficulty can also be diagnosed through assessment (Cline & Shamsi, 2000). This type of assessment is often used by Educational Psychologists or Support for Learning staff although several tests are restricted to use by Educational Psychologists only.

4.4 Assessment: Norm-referenced, Criterion-referenced and Curriculum-based

Test scores have to be interpreted and the results are only meaningful if they can be compared either to other individuals' scores or to some criterion. A test is standardised if the scores are scaled to relate performance to a standard level called a 'norm'. Norms are gathered by administering a test to a large sample which is representative of the age group. A nationally standardised test* is one that provides information about where a particular test taker's score falls within the distribution that is typical for all children of that age from around the country. The great majority of reading tests are standardised (Vincent, 1985). Many norm-referenced tests in English are based on scores from English speaking samples only and these would not be appropriate for those children who had been brought up with Gaelic as their language of education; as Baker (2000) pointed out, norms based on English speakers would be unfair for language minority children. Norms should be based on a relevant sample of children which reflects the target population. In this study, that involves only pupils in Primary 2 and Primary 3 in Gaelic-medium education. Norm-referenced assessment compares the results of a pupil with that of his/her peers. These standardised tests give a score which is compared with the average scores of a standardised sample and by studying as many examples of the available population as possible it should be possible to establish a set of norms. As well as providing information on a pupil's progress relative to his peers, a standardised test can provide diagnostic information. For example, Weedon and Reid (2001) devised the 'Listening and Literacy Index' which links standardised tests of listening, reading and spelling to enable a comparison of the three skills which could provide an indicator of the existence or risk of a specific learning difficulty. Standardised testing is a tool which can determine if a child needs additional support or intervention and can provide information about specific skills. The test devised by the researcher for assessing phonological awareness in Gaelic could identify which children were behind same-age peers in phonological awareness and provide information about specific skills. When using a nationally standardised test, the cut-off point for identifying reading difficulties can be set at a particular expert agreed-on level, for example, the 25th percentile. This would indicate that 24% of that

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population tested have lower scores. Teachers may decide to put in some intervention if a child's score falls on or below the 25% percentile but would have to be sensitive to individual language ability as prior experiences with Gaelic language may influence the results.

Reid (2003) emphasised the need for these tests to have a high validity* and reliability* if a teacher is to have confidence in results from such a test. Assessment can be individual or for a group or a whole class. Ideally, information has to be gathered over time by those in the best position to know the pupils. These tests are for those involved in the process of identifying pupils who need increased instruction in phonological awareness including Educational Psychologists, Support for Learning Teachers or reading specialists. Sodoro et al. (2002) described several studies made by researchers investigating phonological skill development and the effects of phonological awareness training programmes. One advantage Sodoro et al. believed is that assessment provides the teacher with specific knowledge about what a child does or does not know relative to a curricular domain.

Cline & Shamsi (2000) and Baker (2000) both advised against the use of normative assessment preferring curriculum related or criterion-referenced assessment. At present, curriculum assessments exist in Scotland in the form of National Tests, but these are being phased out as *A Curriculum for Excellence* replaces the 5-14 Curriculum. At the time of writing, schools are just beginning to introduce the experiences and outcomes for *A Curriculum for Excellence* reflecting Gaelic-medium education. However, guidance on assessment suggests that "much of the evidence will be gathered as part of day-to-day learning; use of specific assessment tasks is also important in providing evidence" (Scottish Government, 2010, p. 5). Criterion-referenced tests can determine how well a child possesses specific phonological awareness skills and can identify specific skills that need to be taught. They compare skills of an individual child to a set of standards or criterion for specific content areas (Taylor, 2000) and are designed to diagnose deficits in specific skills. Assessment can be individual or for a group or a whole class. These can be commercially available or can be developed by practitioner researchers for specific purposes

(Overton, 2000). This is advantageous as it allows a researcher to develop assessment measures unique to a specific content, for example, Gaelic phonological awareness. Criterion-referenced tests are for those involved in deciding exactly which phonological skills a pupil possesses, such as Classroom Teachers and Support for Learning Teachers, who may also want to assess the impact of any specific interventions made.

Curriculum-based assessment or criterion-referenced testing allows frequent measurement towards a long-term curricular goal using standardised procedures according to Fuchs and Fuchs (1999). It determines a pupil's rate of progress in acquiring specific skills; it could determine fluency in phonological skills. It documents progress over a period of time on specific skills, for example in phonological awareness it could be blending, segmenting or, onset/rime. It also provides information on a pupil's accuracy and response fluency. All items and content are drawn from curricular materials used in class to ascertain progress towards the acquisition of specific skills (Taylor, 2000). Information gained can aid teachers in making instructional decisions and provides feedback about the effectiveness of their teaching. Good and Kaminski (1996) believed curriculum-based assessment is used to identify a problem, validate it and explore solutions, evaluate solutions and problem solve. However, for an assessment of phonological awareness to be appropriate for all pupils in Gaelic-medium it would require agreement of what phonological awareness skills pupils should have obtained, for example by the end of Primary 2, whether learner or fluent speaker of Gaelic. A benchmark can only be provided by making comparisons with the normal population. At present there are no criteria for phonological awareness skills in Gaelic-medium education. Half of the assessment tools of phonological awareness in English reviewed in this project are standardised. It is the intention in this study to create tables of norms from the results of the tests conducted as this will enable teachers to identify areas of phonological awareness to be worked on and to compare their pupils' results with those of other Gaelic-medium pupils of the same age, as will be discussed in Chapter 7.6.

With formal tests, whether norm-referenced or criterion-referenced, teachers are required to follow the instructions for administration and scoring without adapting any of the procedures. In the past teachers have attempted to translate parts of English tests into Gaelic but this option is not advised as it can involve bias as well as generate misleading results. This study involves assessment of oral sounds and word structure only and teachers themselves have requested such an assessment in Gaelic (Macleod & MacLeod, 2001; Lyon, 2003) as the only other option is to use one in English.

4.5 When should children be screened for risk of early reading problems?

It is important that pupils with weak phonological skills are identified as early as possible. One could ask the question '*When to assess?*' The answer should be as soon as particular learning needs are apparent, argued Reid (2003). Teachers can sometimes identify a 'learning difference' pre-school and make an *informal* assessment resulting in some form of differentiation but Blatchford and Cline (1992, 1994) put forward the argument for assessing children *formally*. An initial profile of each entrant can inform the subsequent pedagogy for every child and can identify children who are having difficulties. Baseline assessment can provide a picture of the new intake as a whole and is a base for measuring the subsequent impact of the school. However, Wolfendale (1993, p. 33) listed a variety of objections to such assessment on a 'theoretical, ideological, practical and financial' level but does concede that 'there does appear to be a consensus, based on reality principles, that a form, or forms, of on-entry to school assessment is a viable idea.' Both informal and formal assessment should take place at the infant stage of the primary school.

Screening tests of pupils at any stage of their education can be contentious. Efficient screening can be costly in terms of staff and resources. Designing effective early screening assessments can be demanding because of the rapidly changing and developing phonological and literacy skills. A screening result could be a highly successful predictor at one stage in the year and yet be ineffective at another

(Torgesen, Wagner & Rashotte, 1994). It could be argued, however, that using some phonological tasks too early could lead to misidentifications. Most baseline assessments take place in the very early stages of a child's schooling, although some schemes in England and Wales take place in pre-school classes (Wilkinson et al., 1998). As Gaelic-medium pupils may have only a limited amount of Gaelic vocabulary and little exposure to the language at the early stages of their education, this would not be an appropriate time to assess them in Gaelic.

There is some debate as to whether all pupils should be screened or just those struggling to make progress. Crombie (2002) devised a nursery screening in English for all pupils in East Renfrewshire Education Authority in the belief that appropriate intervention strategies should be put into place for those children who, through the screening process, show signs of specific problems or immaturity in their pre-school year. She went on to introduce a similar early screening in Highland Region where "the aim of the early screening programme is to look specifically at pupils early who may be 'at risk' of failing to learn effectively", (The Highland Council, 2007, p.6). The main objective of this screening is to identify the need for intervention rather than to apply labels and all pupils are involved. This assessment covers early reading skills such as letter name/ sound knowledge, phonemic awareness, knowledge of vocabulary and other skills required to assess phonological awareness. A similar screening was devised for Primary 1 pupils. The focus was on the following aspects: rhyme detection, letter knowledge, rhyme production, word reading, print concepts and polysyllabic repetition.

Diagnostic assessment can determine serious or persistent difficulties in a child's learning. Some pupils may be at risk of developing learning difficulties. Research suggests that early intervention can minimise the effects of these weaknesses on reading and spelling (Wilkinson et al., 1998; Lindsay, 2004). The identification of actual difficulties is a necessary step in creating a programme of teaching. The goal of an early screening instrument is to identify children at risk of reading failure before they have proceeded too far in their education. Accurate assessment of phonological awareness is critical for teachers who have to make the provision

necessary for literacy development. So the timing of effective screening tests is important because of the rapid development of children's phonological and early literacy skills.

4.6 Assessment in Gaelic-medium education

At the moment, some Gaelic-medium pupils are identified by their teachers as "those who seem to be getting off to a slow start" (Lyon, 2003). The teachers are already familiar with the children and draw on their own observations and experience to identify 'at-risk' poor readers. Although this is a 'hands-on' and cost-effective means of identification, the prediction rates are usually low as discussed by Flynn (2000). He believed that teachers are unwilling to predict failure so early on in a child's school career. Most children entering Gaelic-medium schools are fairly new to the language so teachers are reluctant to raise concerns until fluency in the language develops. Flynn believed that teachers may not have enough of the necessary professional knowledge of reading development to enable them to identify skills correctly. Primary teacher education in Scotland provides minimal guidance in the identification of specific learning difficulties according to the Cross-Party Group on Dyslexia (2009). Indeed, teachers may make their predictions on general developmental observations rather than research-validated assessments of reading success.

Numbers of Gaelic-medium pupils continue to increase annually, and MacLeod and MacLeod (2001, p. 5) stated that schools have had to respond to "increasing numbers of learners with special educational needs". MacLeod and MacLeod (2001, p. 18) also recommended the development of a "robust framework for identification, assessment and diagnosis" of these educational needs and that this should be "supported and informed by research, would take account of needs in relation to, for example, baseline assessment and language development". Four years later the report 'Improving Achievement in Gaelic' (HMIE, 2005) still indicated a lack of suitable resources to assess and diagnose the difficulties of pupils. Only one education authority had adapted English-medium materials for assessing a pupil's learning difficulties and teachers' views of these follow in Chapter 8.2.

Some Gaelic-medium units/ schools use the screening tools already administered in English-speaking schools as identified by questionnaires (Lyon, 2003), and some use their own translations of these. Although laudable, this requires a thorough understanding of specific phonological awareness skills and the developmental progression of these tasks. The vocabulary used may often not be familiar to the children and most items will lose vital phonological processing information in the translation into Gaelic. More generally, in Scotland, Deponio et al. (2000a) believed that there was a lack of appropriate assessment procedures for dyslexia for bilingual pupils. While early screening does not focus on dyslexia, dyslexia is a specific learning difficulty which can be highlighted by the screening. The possibility that pupils receiving Gaelic-medium education may be dyslexic will be just as relevant as for pupils receiving their education in English. The Highland Council (2007) stated that pupils with problems learning to read and write in either language should be assessed and that assessment of reading and writing in both languages should be taken into account. Dyslexia Scotland, in their online resource 'Assessing Dyslexia', which forms part of the National Framework for Inclusion (2009, ¶ 4), highlighted Gaelic-medium education under other factors to consider when assessing for dyslexia. It acknowledged that the fact "that the child is learning to operate in two different phonological and written language systems could be a complicating factor, and close investigation should be done before reaching conclusions. This may require focused attention to phonology in both languages".

Specific language difficulties can be easier to interpret at a young age as assessments often produce clearer profiles whereas later identification can be harder because of compensatory strategies adopted by the child, or experiential factors (Ott, 1997; Bradley, 1989). Children who are identified as "at risk of reading failure" at an early stage have a good chance of being able to make up the educational ground. The later the identification, the longer a child has to become frustrated and demotivated, often resulting in emotional and behavioural problems. Indeed Maughan (1994) has demonstrated a clear link between early reading failure and later social, emotional and behavioural disorders. In many Primary 1 classes in education authorities in Scotland, children are baseline assessed in September, four weeks after starting

school (Wilkinson et al., 1998). East Renfrewshire Council's baseline assessment is carried out by each Class Teacher. There is no threshold score but children at risk of having difficulty with the learning process usually achieve a low score. The City of Edinburgh Council has produced a screening in numeracy and literacy for teachers of Primary 1 to administer. Most education authorities with Gaelic-medium pupils do not provide screening in Gaelic.

Although HMIE (2005) found that most schools made effective use of information, provided by pre-school centres and parents, as a starting point for planning development in Gaelic language in the primary stages, transition records from nursery often focus on what a child can do. These, however, do not inform teachers about a child's characteristic behaviour. By the end of their first year in school, all of the children in a study of monolingual English-speaking children in Scotland by Stephen and Cope (2003) were considered by their Class Teacher to be settled in school and most were making satisfactory academic progress. It should be noted that the attainment level considered 'good' or 'average' varied from school to school particularly in reading. The difficulties with academic progress encountered by a few children were identified both by their parents and their teachers. The term 'progress' can be used to refer to the increase in qualitative terms of a pupil's reading and spelling attainments, but it is also important that comprehension and perception of literacy are considered. Teachers expressed a view that nursery classes offered a better preparation for Primary 1 than other forms of pre-school provision, such as playgroups.

4.7 Assessment in a pupil's second or additional language

Baker (2006) raised the question of whether bilingual pupils should be measured only against other bilinguals as it is unfair to compare bilinguals with native monolingual English speakers. He gives the example of the expectation that Welsh-speaking pupils should be given English assessments at school as they must compete against monolingual English speakers in a mainly English-language job market. Grosjean (1985, as cited in Baker, 2006) recommended that any assessment of language proficiency should consist of an evaluation of a bilingual's general

competence in communication rather than traditional language tests. Biographical details indicating what level of language is spoken at home by the child and by parents can have implications for teaching and learning. Burgess-Macey (1994, p 53) believed a child will perform better in "activities that have meaning in their own culture." Rathvon (2004) argued that a pupil's oral proficiency in L1 is a significant predictor of reading when it is measured in terms of comprehension and that too many teachers relied on oral proficiency in L2.

Verhoeven (1994) made a study of children from second generation Turkish families in the Netherlands. Although their early language experience was in Turkish they quickly began to use Dutch with their friends with the result that both their languages were interchangeable by the age of six. He tried to create an assessment that was relatively culture-unbiased by choosing a list of Dutch words that were not culture-specific and could be expressed by a single Turkish word. Twenty Turkish teachers then checked the list to see if they thought 6-year-old native Turkish speakers living in the Netherlands would understand the Dutch vocabulary. To evaluate the children's phonological skills, Verhoeven used phoneme discrimination tasks where pupils had to distinguish between minimal pairs of Turkish and Dutch phonemes. Results showed that lexical and morpho-syntactic skills in L1 and L2 were almost autonomous processes. However, there was only moderate interdependence between L1 and L2 for phonological skills, mainly due to the high level of metalinguistic awareness required in the phonemic discrimination tasks. Verhoeven concluded that literacy skills developed in one language strongly predict corresponding skills in another language. Cummins (2009) explained the fact that pupils, taught daily in a minority language, showed no deficits in academic development of the majority language because they had some common underlying proficiency reflecting interdependence of academic skills and knowledge across languages.

Previous discussion has acknowledged the importance of identifying any difficulties a child may have with reading, whether from a specific learning difficulty, such as dyslexia, or from a delay in development. Crucial to finding out the nature of any reading impairment is the form of assessment used. Gillon (2004) believed that

phonological skills developed in one alphabetic language appear to transfer to increased sensitivity in a second alphabetic language. In 2006, Hamilton and Gillon investigated the phonological awareness skills of children who were bilingual in Samoan and English and the results showed that their phonological awareness skills at the phoneme level were comparable in both languages. Differences were found at the onset-rime level. Martin et al. (1997) demonstrated that phonological awareness functions across all languages. Stuart-Smith and Martin (1999) argued that one must be sensitive to the phonology of each of a bilingual child's languages during the stages of assessing phonological processing skills. They concluded that the most informative assessment should be one carried out in both languages.

However Cline and Shamsi (2000) warned that pupils learning English as an additional Language (EAL) may be wrongly identified as having learning difficulties as there could be errors in identification or they might perform poorly just because they have been labelled as slow learners. Equally, CRE (1996) highlighted the significant under-representation of bilingual children among pupils assessed as having dyslexia. Deponio, Landon, Mullin and Reid (2000a) undertook an audit to explore the findings of the Commission's report. Within the 91 schools with bilingual pupils that participated in this study, the incidence of dyslexia was very low; only 27 cases. The audit looked at the processes involved in identifying and assessing the pupils and found that assumptions are sometimes made that the primary difficulty is the second language learning and not dyslexia. Difficulties were found in using accepted indicators of dyslexia in monolingual pupils to those of bilingual pupils; a diagnosis of a specific learning difficulty could be confused with the normal development pattern of second language acquisition. They came to the conclusion that: bilingual dyslexics were not always identified; were identified too late; assessments in a child's first language were required; and staff needed clear guidelines on assessment and screening procedures for bilingual pupils.

Indeed, the first Multilingualism and Dyslexia Conference in 1999 raised the issue of the need for better methods of identification and assessment as well as support (Crombie, 1999). In England, Cline and Shamsi (2000, p. 23) stated that "evidence

has accumulated over thirty years that teachers tend to expect too little from linguistic minorities in historically monolingual Western societies." The Sandwell Bilingual Screening Assessment (Duncan, Gibbs, Noor & Whittaker 1988) is an example of an attempt to design and validate a test specifically for one population of minority pupils living in one geographical area.

In Gaelic-medium education, teachers have reported some anxiety in relation to their inability to access Gaelic speaking learning support as well as a lack of understanding of language acquisition and language development in Gaelic which has implications for their ability to respond to language related learning difficulties (MacLeod & MacLeod, 2001). There are no official figures for numbers of Gaelic-medium pupils identified as having a specific learning difficulty but the researcher's own experience, teaching in Gaelic-medium primary and secondary schools in the 1990s as well as research carried out in 2003, indicates there are significant numbers of pupils who remain unidentified at what is a critical part of their education. Several parents have also raised their concerns through Comunn nam Pàrant. The General Teaching Council for Scotland (1999) recommended that teachers must be able to identify and respond appropriately to pupils with difficulties including being able to diagnose specific difficulties which pupils have hearing sounds, producing sounds or grammatical structures. This includes recognition of when to seek further advice in relation to their special educational needs.

MacLeod and MacLeod (2001) acknowledged the absence of assessment instruments for the Gaelic-medium context and although Learning Support Teachers were aware of tests developed for English, they realised their unsuitability for the Gaelic-medium classroom. The absence of equivalent tests, rooted in research into the development and early acquisition of Gaelic, raised concerns about equity in terms of entitlement. Teachers were frustrated as they felt "they lacked the backing of a sufficient research base to support their judgements, diagnosis and hence their planned responses" (MacLeod & MacLeod, 2001, p. 14).

A child's preschool experiences and language contact can have a considerable effect on language development and the language of instruction used, whether L1 or L2, could make a difference to assessment results. Early bilingual input is crucial as has been previously discussed but several differences exist that could have an impact on assessment. A child might have L2 language contact at home as well as at school; this could be extended to child to child L2 contact through nursery or cròileagan (playgroup) attendance; extended family language use through visiting grandparents or residence in a Gaelic-speaking area could also bring differences to assessments. The use of Gaelic media by families can vary tremendously, as not all pupils benefit from the wide variety of programmes available on television and radio, as well as exposure to books and music in Gaelic. Children coming from Gaelic literacy-rich home environments may have an advantage through the cultural behaviour of their families. Some children may attend Gaelic-medium education with no knowledge of Gaelic and no familial background or environment associated with Gaelic.

Cummins' (1984) hypothesis predicted transfer from L1 to L2 but also L2 to L1. In order to explain the processes leading to interdependence between language skills, Cummins made the distinction between communicative competence and cognitive or academic skills. He argued for the existence of the transferability of proficiency across languages in academic tasks, such as reading and writing. Genesee (1979) also reported high correlations between English (L1) and French (L2). Verhoeven (1994) described a number of studies which strongly support Cummins interdependence hypothesis, but he also pointed out that the role of social factors had been neglected. Cognitive and linguistic differences alone are not enough to explain differences in school progress in a bilingual context. According to Genesee (1984), language alone does not explain any delay that some minority language pupils experience in acquiring school related linguistic proficiency. He believed age as well as L1 proficiency could predict L2 proficiency. The transfer of language skills from L1 to L2 was high, both at the word level and at the text level. Troike (1984) suggested that socio-cultural factors may be more important than purely linguistic factors in influencing school achievement for bilingual pupils.

4.8 What phonological skills can be assessed?

Reading consists of three discreet subskills: decoding, word recognition and comprehension (Goulandris, 1996). Good readers can often be characterised by the ability to read individual words but that does not always imply comprehension. Through decoding words, readers "learn to read" but comprehension enables readers to "read to learn" (Pretorius, 2005). The correlation between reading accuracy and reading comprehension is so high in early years that measuring the ability to read single words out of context gives an excellent measure of overall reading skill. Also the ability to read nonsense words correlates highly with reading attainment. However it is possible to identify potential difficulties even earlier by examining a child's phonological awareness development. Many educational researchers suggest that the direct assessment of phonological coding is an appropriate method of inquiry, because deficits in this area seem to act as an obstruction, impeding the development of robust reading skills (Morris, et al., 1998).

Research findings have shown an association between phonological disorders and deficient phonological awareness skills (Bird, Bishop & Freeman, 1995; Stackhouse, 1997). Sodoro et al. (2002, p. 224) believed that "accurate assessment of phonological awareness is critical for teachers ….. who are interested in young children's literacy development." Examples of some of the tasks that reveal a child's phonological awareness include the ability to rhyme words, hear that different words start or finish with the same or different sounds, say how many phonemes there are in a word, identify separate words in a sentence, hear different syllables in a word, delete or substitute individual phonemes. Rapid naming is the ability to retrieve phonological or sound representations quickly from the long-term memory (Wagner and Torgesen, 1987). In recent years, there has developed a plethora of early screening in English involving a brief assessment that helps to identify which pupils are at risk of failing to develop early reading skills. Rathvon (2004) believed screening assessments are most effective in identifying children at greatest risk if the majority of children achieve at least some success on the tasks selected.

Different assessment tools assess different skills and abilities. Literacy tests in England usually examine speaking and listening, reading and writing (Wilkinson et al., 1998). The optimal tests for measuring phonological awareness depend on the age of the children, their language development and their exposure to literacy activities. Catts et al. (1999) argued that less able poor readers have much the same phonological processing abilities as more able* poor readers but the former will demonstrate more oral language deficits. It is possible that certain tasks designed to measure phonological awareness in one language, for example, English, may not function in another language. Some English sounds may not be present in a child's native language; the complexity of syntax, word order and vocabulary may be unfamiliar. This is certainly the case in Gaelic where word order, phonic sounds and vocabulary vary from that of English, but the majority of pupils receiving Gaelic-medium immersion education are already familiar with English and many will be more familiar with English than Gaelic. Interestingly, Rathvon (2004, p. 26) concluded that "ESL* children's phonological awareness and rapid naming skills in English are reliable, valid predictors of subsequent English word-level reading/spelling skills and that risk for reading disabilities can be determined in children who have not attained full English oral language proficiency."

As well as helping to identify those pupils at risk of reading failure, screening tests of phonological awareness can also help to monitor those who are already receiving some intervention. A low result in a screening test could identify pupils requiring a period of intervention which could be followed up by a diagnostic assessment at a later date. Pupils whose performance did not improve could be referred on for further assessments. Used in this way, a screening tool can help to distinguish between specific learning difficulties and reading problems caused by experiential or instructional problems. Some assessments give tables of norms to interpret the attainments in performance and some give a cut-off score below which pupils could be deemed to be at risk. Sodoro et al. (2002, p. 34) believed that "assessment is critical in providing quality instruction that builds phonological awareness in both normally developing children and children who are at risk for learning to read". The assessment tool used must be based on the type of information needed. The method

of assessment of a pupil's phonological skills in Gaelic should fit or be complementary with the current system within the school. This would help teachers who may have considerable experience and knowledge of the type and pattern of errors made in English. In order to be fair, a Gaelic test should not be harder than an English one, word length and frequency being paramount in test formulation.

This section considered the role of assessment in identifying literacy difficulties and discussed the need for identification tools in Gaelic-medium schools, specifically phonological awareness assessment tools. The next section will briefly consider the rationale behind early intervention and will look at some of the strategies that are desirable, not only in monolingual classrooms but equally in Gaelic-medium education, in order to prevent later reading problems.

4.9 What is Early Intervention?

"Early Intervention" is a phrase that has been widely heard in the past few years in Early Years education. In 1997, all local councils in Scotland shared a £60m investment in order to target and support certain groups of vulnerable children, mainly living in disadvantaged socio-economic areas, who were most likely to make poor progress in literacy and numeracy. Early prevention and intervention programmes were "aimed directly at raising standards of literacy and numeracy in Primaries 1 and 2" (SOEID, 1998, p. 1). Early Intervention was a response to the concern that all children should have the right start in primary school if they are to access all later stages in the curriculum. The results from several studies show that early intervention can help especially to prevent later reading problems (Slavin, Karweit, & Wasik, 1994; Vloedgraven & Verhoeven, 2007). "It is possible to predict, to some extent, the likely future success of children in learning to read long before they enter school" according to McMillan and Leslie (1998, p.5). The younger the child, the more effective the intervention can be, according to Ott (1997). The extent to which children are identified depends greatly on the type of assessment or screening used, and the improvement thereafter depends on the interventions put in place.

Different local councils in Scotland focused their resources in different ways in order to prevent failure. New posts were created for nursery nurses, teachers and learning support staff as well as development officers. Some invested additional funds to support family literacy and childcare while others put Classroom Assistants into schools. The initial programme was set up to run for three years, (Scottish Executive Education Department, 2002), but was extended to five years and local councils have had to take on the running and funding of new staff recruited. Some councils looked at how to support nurseries and how to ease the transition from pre-school to primary school. Others looked at developing different approaches within the classroom and have shared, and continue to share, evaluation findings. Some of these approaches included the teaching of phonics, emergent writing skills, shared/paired reading, circle time, reading recovery, big book/class reading, early music skills, mental calculation and whole class maths.

It was at this stage that some Gaelic language support assistants were appointed in some Gaelic units/ schools but many of the approaches described above were not shared with Gaelic-medium staff. The vast majority of resources were in English and the screening tools which have emerged in the past fifteen years have only appeared in English. Gaelic-medium education is funded directly from specific grant money directed at staffing in Gaelic-medium units within existing primary schools. Resources for Gaelic-medium education are mainly produced by Stòrlann Nàiseanta na Gàidhlig, a government funded body, which now provides a wide variety of materials for schools but they do not have the range and variety of resources available in English speaking schools.

Edinburgh University was funded by SEED to evaluate the effect of Early Intervention in English speaking schools in Scotland and found that literacy attainment, in particular, rose. According to Fraser, MacDougall, Pirrie and Croxford (2001), there was an increase in reading attainment in councils that had focused their resources on schools where pupils were perceived to be disadvantaged. Research also suggested a link between home and the attainment of some children. In fact, McMillan and Leslie (1998), when listing factors that promote reading

success, put parental involvement and support at the top of the list. Fraser et al. also found that staff development and awareness, raised as a direct result of Early Intervention Programmes, helped teachers to become enthusiastic, confident and focused in their teaching. They could see that prevention was the secret to longer-term success. It is particularly frustrating for some Gaelic-medium teachers who have expressed their concern that they do not have the necessary tools to identify difficulties early enough or have sufficient intervention resources to address difficulties (Lyon, 2003; MacLeod & MacLeod, 2001). The Education (Additional Support for Learning) (Scotland) Act 2004 recognises the importance of early intervention as do other Scottish educational initiatives such as 'Getting it Right for Every Child', the 'Early Years Framework' and 'A Curriculum for Excellence'.

4.10 Factors affecting Early Intervention

The underlying crux of early intervention must be that the earlier the intervention or support is given, the greater the difference that is made (Fraser, 1998). If children are identified and intervention begins in the first or second year of schooling there seems to be a greater chance of success than is achieved by programmes designed for older pupils (Bryant & Bradley, 1985). It is easier to prevent later reading problems than to deal with them once they are established. This fact has been known for some time. Successful intervention comes as a result of school screening which draws attention to a problem before the problem itself becomes apparent (Cowie, 2004). Since the early 70s there have been concerns about levels of literacy in Scotland. From 1978 there has been a change in philosophy away from the deficit model that blamed the child, his/her parents and his/her environment. Clay (1985) stated that the later intervention is put in place, the poorer the successful outcome. Some children need more support to achieve their potential. This adopts the compensatory model where the school must put in extra language support to compensate for socio-economic or other factors that can lead to weaker literacy development. As some children arrive at school with limited experience of early literacy, a degree of environmental language needs to be reinforced and a stimulating print environment created.

The Gaelic-medium classroom has for some time focused greatly on the oral requirements of pupils at the early stages of their education. This is to provide children from non-Gaelic backgrounds with basic oral competence in Gaelic, according to the 5-14 Guidelines for Gaelic-medium Education (SOED, 1993). The Guidelines also state that this emphasis on oral skills reinforces the existing skills of Gaelic speaking pupils whose language competence could suffer in a predominantly English speaking environment. The initial bilingual policy of Scotland's first Gaelic-medium unit in Glasgow, Sir John Maxwell Primary Gaelic Unit (1987) stated that "the initial classroom emphasis will be on giving the children the opportunity to listen to and to speak Gaelic". The Immersion Policy of the same school (1996, p. 1) gave a detailed methodology stating that "teachers should speak Gaelic extensively using visual clues, pictures and gestures to explain new words and phrases." Ideally this begins at the nursery stage when teachers use Gaelic almost exclusively and the emphasis is on speaking and listening skills. Snowling (1987, as cited in Ott, 1997) claimed a child's later acquisition of literacy depends greatly on spoken language skills and awareness of those skills. Highland Council's Reading Policy states that there is an even greater focus on oral language in Gaelic-medium education, especially at early stages, in order to develop pupils' fluency (Highland Literacy Project, 2008). The Immersion Policy Sir John Maxwell Primary Gaelic Unit (1996) expected pupils to progress through three stages-

1) Children will listen, absorb and understand most of the language they hear;

2) Children will understand and begin to respond, perhaps partially in English;

3) Children will give information and make requests, in addition to responding to the teacher.

Whether in Gaelic-medium or English-medium education, teachers' perceptions and understanding of exactly what the term 'phonological awareness' means is vital. In Chapter 3.3, the importance of phonological awareness in emergent literacy development was discussed, but if teachers themselves do not know the basic principles of phonological awareness then they are not able to teach the phonological awareness skills necessary for beginning readers' success. Bos, Mather, Dickson, Podhajski and Chard (2001) examined the perceptions and knowledge of teachers

about early reading instruction and found that teachers demonstrated limited knowledge about phonological awareness and the terminology related to phonics and language structure.   Results of a Teacher Knowledge Survey administered by Brady et al. (2009) also indicated weak knowledge of phonological awareness and phonics. Crim et al. (2008, ¶ 15) found that early childhood teachers "had difficulty identifying specific print-to-speech concepts of the English language structure - basic skills related to beginning reading instruction. These concepts include counting syllables in words and identifying the number of morphemes* and phonemes in words". In order to teach phonological skills to young children, teachers must themselves possess an explicit knowledge of language structure and an understanding of the relationship between poor phonological awareness and reading failure. Only then can they know when to implement the necessary activities to develop phonological skills. Teachers must also have knowledge of the development of print concepts, reading fluency, reading progression and teaching strategies for reading books.

Another cause of early literacy failure can occur when teachers have low expectations of some pupils' achievements. For example, it has been known for teachers to stereotype pupils by comparing their performance or behaviour with that of a sibling. Disadvantage seems to survive from generation to generation. Pupils coming from a disadvantaged family in a disadvantaged neighbourhood quite often attend a school where expectations are low and subsequently attainment is low. In some instances pupils will perform in much the same way as their teachers expect which does not promote positive self-esteem and respect. Gaelic teachers have an even greater responsibility, as the extent of their pupils' knowledge and exposure to Gaelic can be masked by the fact that the classroom language is Gaelic. In a similar way, teachers in English speaking schools can assume the levels of proficiency in English of bilingual learners. Pupils may have a good level of language proficiency in English for social purposes but using language for academic purposes requires a higher cognitive demand (Learning and Teaching Scotland, 2005). Teachers should ensure effective inclusion for bilingual learners in the classroom. Sometimes teachers fail to build on what a child already knows or even attempt to find out about

prior knowledge. Merchant (1999) believed that it is the responsibility of the teacher to value the child's early literacy learning. If homes do not provide a good environment for reading and encourage a child to spend time reading, the school itself must prepare the child for reading by providing activities and good quality resources to develop emergent literacy. Failure to provide the correct resources to match a child's experience can be put down to poor teaching. Macleod and MacLeod (2001) and Fergusson (2001) both emphasised the need for opportunities to participate and communicate in Gaelic in the home and the wider community.

Today, most councils recognise the importance of good quality in-service, and most provide several courses annually aimed at teachers, pupil support assistants and nursery staff. Examples of these continuing professional development courses include those for phonics and spelling such as: 'What is Phonics?' 'Phonic Teaching in the Primary Years', 'Developing Spelling'; as well as those for language and literacy development such as 'What is Communication?', 'Improving Listening, Attention & Independent Skills', 'Listening, Memory and Understanding Language', 'Encouraging Expressive Language Development'. These courses are available to Gaelic-medium teachers but make reference to English phonology and resources only. Creative teachers will go back to their school or nursery and adapt the strategies demonstrated to suit the Gaelic language setting. Most suggestions are relatively easy to adapt but rely heavily on teacher-made resources which often are not as well presented as commercially-made products. Difficulties arise too, where teaching strategies use English syntax. Teachers are encouraged to create a literacy rich environment in which they can develop literacy experiences through play and daily routines and activities (Johnstone, 2002).

Good role models are required so that the pupils have extensive opportunities to hear Gaelic spoken. In particular, the Gaelic-medium classroom in early years benefits when additional adult support is available but in Gaelic units with small numbers this provision is not always possible. If there is a need for extra support in nursery or Primary 1 and 2 it should be given. It is also important that there is good collaboration between school, home and nursery. Where there is a poor partnership

between nursery and primary school or with parents, pupils at risk of literacy failure will be identified later than those whose concerns have been raised at Pre-school community assessment team (PRESCAT) meetings and for whom steps have been put in place early on. Wilkinson et al. (1998) discovered that staff in pre-schools had given little priority to passing on information to their colleagues in primary schools about individual children. There may be reports from Speech and Language Therapists, Occupational Therapists, Educational Psychologists, Doctors and home-link teachers as well as the nursery itself. It is also good practice for nursery nurses or teachers to visit the Primary 1 class before the session as well as during the first week of the new school year. Early Intervention relies greatly on the sharing of information that takes place through the transition documents that are sent from nurseries prior to pupils going to school, and from pre-school visits. Some councils have profiles that give clear comments as to what the next steps should be which can be very useful to the primary school. Extended transitions are now standard in most councils and part of whole-school policy. It is important to gather as much information as possible as many different sources of data have an influence on learning. For example, medical and family background details are important as they may help the understanding of relationships with peers, siblings, parents and staff. Sensory impairment or behaviour issues can be barriers to learning, and are just as likely to be found in Gaelic-medium classrooms as in English-medium classrooms.

Early readers of alphabetic languages often rely on context clues and pictures as they have no other strategies to use, however, they must have knowledge of phonological awareness, concepts of print and analogies if they are to succeed in literacy (Goulandris, 2003). As has already been discussed, phonological awareness, the ability to segment words into their phonemes, is a clear predictor of a pupil's ability to cope with the early stages of learning to read according to research carried out in the UK, USA and Scandinavia by Vellutino (1987) and others. Phonological processing research by Goswami (1994) showed the close association of the development of speech, language and phonological processing, and the influence that this has on a child's ability to read and spell. Vital auditory training at the pre-reading stage, beginning with the skill of rhyme, is closely linked to spoken language

in the early stages of development (Briggs, 1997).   It is very hard for this concept of rhyme to be taught explicitly in the Gaelic-medium classroom as there are few nursery rhymes in Gaelic and those that exist often contain vocabulary that is unknown to the majority of Gaelic-medium pupils who are learning Gaelic for the first time.

In order to ascertain which pupils require specific intervention, Crombie (2002) was of the belief that a programme of early screening needs to be put in place. Following the screening process, a programme of intervention is usually introduced. The strategies, recommended by McMillan and Leslie (1998) for reading in English, that have been used to help pupils make progress in reading, could equally be used in the Gaelic-medium context. These include hearing every child's reading daily; teaching pupils about concepts of print; teaching common sight vocabulary; using 'look, say, cover, write and check' spelling method; encouraging paired and shared reading; giving regular opportunities to write independently as well as teaching the alphabet. Dombey (1995) stated that children need experience of reading stories and text on the computer screen and this opportunity can be given to pupils very easily now as the majority of schools have classroom access to the internet and there is a wealth of quality resources available. As poor letter knowledge and poor expressive vocabulary were found by Whiteley, Smith and Connors (2007) to be significant factors in limiting progress in literacy, it would be desirable to include these elements in any programme of intervention.

Learning to listen is an integral part of Early Years education according to Jalongo (1996), as children need to listen to what is being said, to interpret the speaker's meaning, to formulate an answer and make a response. Siraj-Blatchford & Clarke (2000) recommended that certain strategies could be tried to increase active listening. A positive listening environment where background sounds are limited enables a child to focus on listening. Listening activities and games based on the child's level of development, supported by real objects, pictures and audio CDs, should be well planned. A teacher should concentrate on what the child is saying and know when to listen and when to talk getting down to the child's eye level to model good listening

habits. By involving a child's participation while reading a story, perhaps using props or puppets, or raising a hand on hearing certain word, the dramatisation of a story can be encouraged. Listening is particularly important in the immersion phase of Gaelic-medium primary education.

This section has considered the importance of early intervention and its aims to prevent later failure by intervention. It has emphasised the need for a holistic approach involving resources, both human and material, identification and assessment, monitoring, recording and teaching strategies. The coming section will consider the historical aspects of Gaelic-medium education and the place of the Gaelic language in Scotland.   It will look at available Gaelic-medium resources and the need for Gaelic immersion language assessment in the Early Years as present methods of identification indicate some weaknesses.

Chapter 5: Gaelic-Medium Education

5.1 Overview

This section traces the historical aspects of Gaelic-medium education and the place of the Gaelic language in Scotland. Gaelic-medium resources are identified and the need for Gaelic immersion language assessment in the Early Years is examined as present methods of identification indicate some weaknesses.

5.2 Historical Perspective

The Bullock Report said that:

> "*No child should be expected to cast off the language and culture of home as he crosses the school threshold, to live and act as though school and home represented two totally separate and different cultures which have to be kept apart....*
>
> *...the school should adopt a positive attitude to the pupils' bilingualism and whenever possible, help to maintain and deepen their knowledge of their mother tongue.*"
> <div align="right">Bullock Report (1975, p.286)</div>

Throughout its history Scotland has been a multicultural and multilingual society. It was not a matter of a simple linguistic shift from one monoglot Gaelic culture to another in English; rather a shift over various periods of time and Grant (1983) believed that the shift is not over yet. Other cultures and languages have been, and are still involved in Scottish society. The original Gaelic-speakers came to the west of Scotland in the fifth century from Ireland. Once strong in Scotland, the Gaelic language was used throughout most of the country, including the court of the king. During the reign of Malcolm Canmore, in the last half of the eleventh century, Gaelic lost its authority at court and amongst the aristocracy to Norman French influences. English and Scots speaking burghs also became established in eastern and central Scotland, reducing the number of Gaelic speakers in the Lowlands. In 1696, the 'Act of Setting of Schools' was passed by the Scottish government of the day to establish

a school in every parish in the country, a so-called system of parochial schools. By the end of the 1700s this had been accomplished in the Lowlands. In the Highlands this was not the case. Difficulties arose over the geographical size, remoteness and, most importantly, that barrier to civilization – Gaelic. However, literacy, when it entered the Highlands in the mid-eighteenth century through the Society in Scotland for the Propagation of Christian Knowledge (SSPCK), made the English language its medium. Anderson (1999, p. 216) described how the refusal to teach in Gaelic "created a formidable cultural barrier between family and school".

The policy of this organisation towards 'education' for the Highlander was summed up in a SSPCK report:

> *"Nothing can be more effectual for reducing these countries to order, and making them useful to the commonwealth than teaching them their duty to God, their King and Country and rooting out their Irish[4] language, and this has been the case of the Society so far as they could, for all the scholars are taught in English."*

> SSPCK (1716, GD. 95 1 1, p.294)

This came about mainly because there was no Gaelic translation of the New Testament until 1767 and of the complete Bible until 1801, but in executing this policy, great damage was inflicted on Highland culture and language. "The resulting alienation of the mother tongue from education did incalculable harm to the Gaelic language, destroying the people's confidence in themselves and their culture" (Durkacz, 1983, p. 23). A barrier developed between school and the home where there had been a predominantly oral Gaelic culture. Despite this, thousands of Gaels achieved literacy in Gaelic through reading the Bible.

The Argyll Commission report in 1867-8 revealed several gaps in education standards (Anderson, 1999). The first gap was between women and men; female literacy had no apparent importance. The second gap was within the working class; the urban poor had fewer opportunities and child labour was commonplace. The

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[4] In the Middle Ages the English language in the Lowlands was known as Scots while Gaelic became known as Irish in reference to its Irish origins (Withers, 1984)

third gap was between the Lowlands and the Highlands. The Argyll report exposed the inadequate education offered to those living in the Western Isles (see map in Appendix II), Skye and some mainland districts. Ironically, it was the Education (Scotland) Act1872, set up to create a state system by giving control of most schools to an elected school board in every burgh, which is often blamed for the further retreat of Gaelic. There was no mention of Gaelic in the Act although the establishment appears to be no longer hostile towards Gaelic. The Gaelic Society of Inverness and others, who felt that it was desirable to teach children in their own language, struggled to advance the position of Gaelic in education. The 1875 Extension and Code to the Act gave permission for children to be tested in Gaelic where it was spoken, but teachers and inspectors were not trained or qualified and most felt that teaching Highlanders to read Gaelic would be essential before using it as a medium for teaching other subjects. The Gaelic Society of Inverness succeeded, in 1885, in allowing the employment of Gaelic-speaking teachers in the primary school and in 1905 a Lower grade Leaving Certificate in Gaelic was introduced followed by a Higher Paper in 1916 (D. J. MacLeod, 2003). There was, however, no further development in Gaelic education for nearly a century. Withers (1984, p. 159) quoted the Napier (or Crofters') Commission Report of 1884-1885 which tried to close the gap between those opposed to Gaelic and those who were trying to give it more recognition:

> *"We think it desirable that all children whose mother-tongue is Gaelic should be taught to read that language ... We think that the discouragement and neglect of the native language in the education of Gaelic-speaking children, which hitherto so largely influenced the system practised in the Highlands, ought to cease, and that a knowledge of that language ought to be considered one of the primary qualifications of every person engaged in the carrying out of the national system of education in Gaelic-speaking districts, whether as school inspectors, teachers or compulsory officers."*
>
> Royal Commission of Inquiry into the Condition of Crofters and Cottars in the Highlands and Islands. (1885, P.P., 32, 81)

The 1918 Education Act provided for Gaelic to be taught in Gaelic-speaking areas but these were undefined. Even by the end of the nineteenth century there was still a considerable amount of Gaelic spoken. The 1891 Census showed that there were 254,415 Gaelic speakers (see Table 1 on Page 30) with over 75 per cent of the population north of Argyll, Perth and Grampian speaking Gaelic and in Glasgow (1901 Census) 18,536 people were recorded being able to speak Gaelic or Gaelic and English. The decline of Gaelic accelerated in the twentieth century and by the 1981 Census, 79,307 people in Scotland could speak Gaelic, the area where over 75 per cent of the population spoke the language then being restricted to the Western Isles (see map in Appendix II), the northern tip of Skye and the island of Canna (MacKinnon, 1986). Interestingly, though, the greatest number of Gaelic speakers lived in Strathclyde (Grant, 1983). By 1991, the census recorded 65,978 Gaelic speakers, or 1.4% of the Scottish population (see Table 1 on Page 30). By 2001, the Census showed that the number of residents in Glasgow able to speak, read or write Gaelic was 10,034 (Census of Scotland, 2001). Out with Scotland there are clusters of Gaelic speakers, especially in places like Nova Scotia, in Canada, where many emigrants arrived in the eighteenth and nineteenth centuries having left Scotland during the Clearances. Results of the 2001 Census revealed that the number of Gaelic speakers in Scotland had dropped to 58,652. In 2002, the Ministerial Advisory Group on Gaelic (MAGOG) reported that each year 1,500 elderly Gaelic speakers die but an estimated 250 children began their education through Gaelic in 2002. The pupil figures for 2009-2010 had risen to 390 pupils in Primary 1 (Bòrd na Gàidhlig, 2010) and Bòrd na Gàidhlig (2007) have set out the national target for the intake of Primary 1 pupils of 4000 by 2021.

Having been suppressed for centuries, Gaelic has had no adequate educational provision until recently, no official status and no comprehensive broadcasting service. According to Skutnabb-Kangas (1990), education is the most successful way of destroying or retarding languages. Campbell (1983) believed that the main reason for the decline in the native Gaelic-speaking population is the educational system which insisted on educating pupils through the medium of English irrespective of whether or not this was their first language. One way of looking at this is as a form

of "L1 Submersion" where the first language becomes submerged according to Johnstone (2002). This can create negative educational and psychological effects on pupils. R. Smith (2003) believed that education is the key to the survival of the Gaelic language, and that bilingualism is the most practical response. MAGOG (2002, p. 22) also stated that "educational provision is going to be the life-blood of any Gaelic revival". In 1997, Comunn na Gàidhlig (the development agency with a national remit to promote and co-ordinate Gaelic development) emphasised the importance of education in any national policy for Gaelic. Indeed, Urras Brosnachaidh na Gàidhlig (Gaelic Language Promotion Trust) was set up in 1976 with the objective of raising and investing considerable sums of money for the future development of the Gaelic language.

When compared with other minority languages such as Welsh and Irish, it would appear that Gaelic has not enjoyed such a high status. Gaelic has been neither native nor official language of Scotland (Matheson & Matheson, 2000). The SPCK, in contrast to their anti-Gaelic policy, published scriptures both in Welsh and Irish a considerable time before the Gaelic version and both Welsh and Irish languages were not discouraged in schools. In the Republic of Ireland, Irish has been recognised as the main official language since 1937 (Baker, 1997) and bilingual education was decreed by law in 1922, but a survey in the 1970s showed that 56 per cent of people in the non-Gaeltacht[5] areas resented having to learn Irish and 60 per cent believed that they did less well in some subjects through the medium of Irish than children learning the same subjects through English (Committee on Irish Language Attitudes Research, 1975). Many doubted the benefits of bilingual education and there was a drop in the number of Irish-medium schools. Between 1969 and 1976, the numbers of pupils receiving Irish-medium education was halved in areas out with the Gaeltacht. However, there has been a recent increase in Irish-medium schools and Hetherington (1998) puts this down to some parents who resolved that their children's heritage should no longer be neglected. In Northern Ireland in the session 1996/1997, there were 870 primary pupils in Irish-medium schools and in 2007/2008

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[5] Non-Irish speaking areas

there were 2,653 (Department of Education in Northern Ireland, 2007). The growth in Irish-medium education is also reflected in the Republic of Ireland and in 2007/2008 around 35,000 children were educated in over 600 Irish-medium schools throughout the whole island.

The beginning of the first Welsh-medium primary school in 1939 was made not through official channels but by private initiative by individuals who cared passionately about the Welsh language. This first Welsh-medium school was intended for native Welsh speakers but was also attended by some children not fluent in Welsh, and it was in part the success of these children in becoming proficient Welsh speakers that helped to establish credibility for Welsh-medium schools (Dorian, 1988). As with Gaelic in Scotland, Welsh-speaking pupils are taught together with learners of Welsh. Jones (2001) agreed that it is not an easy task teaching for language maintenance and at the same time teaching for language acquisition. In 1988, Welsh became a core subject in the National Curriculum and in 1990 it became a compulsory subject for all pupils in Wales from ages 5 to 14. In areas where Welsh is less strong, Welsh-medium schools have been established which is in contrast to the Gaelic-medium schools in Scotland which tend to be situated in areas where Gaelic is more prevalent. The growth of Welsh-medium education has risen from 7 pupils in 1939 to 397 pupils in 1950, and by 1997 there were a staggering 51,233 (Pritchard Jones, 1998). However, despite the fact that overall numbers of Welsh speakers are rising, concerns have been raised that this may not be enough to guarantee the secure future of Welsh and Fishman (1991, as cited in McLeod, 2003) warned that reliance on education as a means of language revitalisation in Welsh or Gaelic could be unsuccessful.

Gaelic, in comparison to Welsh, is in a much poorer state educationally, and if Gaelic is to survive, it must receive a level of support comparable to that which Welsh and Irish are receiving now. In 2001-2002, 18 per cent of primary pupils were taught through the medium of Welsh, (and 97 per cent of primary pupils not in Welsh-medium education were taught Welsh as a second language) compared with half a per cent of Scottish pupils being taught through the medium of Gaelic (McLeod,

2003). One of the reasons that Welsh is so healthy is that it has had the strong public policy and public funding support that has been denied to Gaelic in the past.

As countries are moving towards European and global identities, it is important to remember that identity starts with the small and requires roots in the local before moving towards the wider global context; first the identity of the family, then extended family, followed by the school and peer identity, then local community identity (Baker, 2002). The smaller identity has to exist before global identity or European identity is possible. Grant (1983, p. 150) put it well when he said: "the logic of multicultural education is the development of the capacity to cope with several layers of identity, none of them exclusive – local, sub-national, national, international."

In 1982, the author became a member of the steering committee of Comann Foghlum na Gaidhlig (Gaelic Education Association) which campaigned strongly for Gaelic education in various regions of Scotland. Together with Gaelic academics and educational activists, the committee helped to lobby politicians, communicated with Education departments and assessed parental support for Gaelic-medium schools.. Then in 1983, some members of the Glasgow Skye Association decided to push for Gaelic education in Glasgow. Comann Sgoiltean Dà-chànanach Ghlaschu (Glasgow Gaelic Bilingual Schools Association) was formed in 1984 with the purpose of promoting Gaelic-English bilingual education in Glasgow and many months of campaigning culminated in the opening of Strathclyde Regional Council's first ever bilingual educational unit in a Scottish city school. Calum Ferguson, Chairman of Comann Sgoiltean Dà-chànanach Ghlaschu (1985), commented that this was "a significant development in Gaelic medium education. Strathclyde is to be congratulated on taking this positive step to meet the educational needs of the 10,000 Gaelic speakers in Glasgow. We hope that other Regions will follow Strathclyde's lead." It was fitting that on the tenth anniversary of Sgoil Ghàidhlig Ghlaschu (2010, p. 10), the honorary president of the Glasgow Skye Association, Kenna Caimbeul, commended Glasgow City Council by saying "the development over the last twenty-

five years is a tale of spectacular success, reflecting much credit on Glasgow City Council who took such a bold and enlightened step in response to parental demand."

In 1996, Michael Forsyth, Secretary of State for Scotland, stated that "ultimately the future of Gaelic lies in the hands of the Gaelic Community themselves. Our aim is to strengthen the existing provision and to enable it to grow steadily." (Comunn na Gàidhlig, 1997). As part of the National Heritage Strategy, The Scottish Executive (1999) declared that it valued Gaelic as a part of Scotland's living cultural heritage and stated that it had a vigorous programme to encourage the use of the language and its transmission to the next generation. However, it was not until 2000 that the Scottish Executive acknowledged that Gaelic-medium education is crucial to the survival of Gaelic as a living language and Comunn na Gàidhlig continued to campaign for Gaelic-medium education to have an equal statutory footing to English-medium education. The MacPherson Enquiry, commissioned by the Scottish Executive (2000, Vision section, ¶ 1) examining Scotland's public support for Gaelic, concluded that significant public support was necessary for Gaelic to survive beyond the 21st century: "The intrinsic value of Gaelic and the benefits of bilingualism will be increasingly recognised. After a transitional period in which the decline of the language will be arrested, it will move into an exciting phase of regeneration and renaissance."

In 2005, the Scottish Executive responded to demands for secure status for the Gaelic language by establishing a Gaelic Language (Scotland) Act. The Act places new duties on councils in Gaelic-speaking areas to provide services through the language and for Gaelic education where there is demand. "I believe this bill will leave the Gaelic language well equipped to meet the demands of the twenty-first century and ensure it prospers for years to come" said Peter Peacock, Minister for Education and Young People (2004, ¶ 2). R. Smith (2003, p. 142) admitted that though the law can throw a lifeline to a minority language, it cannot force the policy-makers and native speakers to take positive remedial action but "consolidating support for the language across all strata of society is an important precursor to the advancement of Gaelic education". The present renaissance of Gaelic, seen through the current development

of bilingual and Gaelic-medium provision, demonstrates a move away from the teaching of Gaelic as a school subject towards "a socio-linguistic valuation of it as the living language of an indigenous community" (Scottish Consultative Council on the Curriculum [SCCC], 1988, p. 2). Appendix III indicates a chronology of the first twenty years of Gaelic-medium education in Scotland (HMIE, 2005).

In 1960, Gaelic was first used as the language of the classroom in Skye, Barra, Harris and the Uists in the form of the voluntary Inverness-shire Gaelic Education Scheme where the main aim was to use as much Gaelic as possible in the provision of education for Gaelic-speaking pupils. The first attempt at Gaelic bilingual education began in 1975 in the Outer Hebrides where the Bilingual Education Project tried to build on the home language of Gaelic-speaking pupils but used both Gaelic and English as the media of instruction. Gaelic had been taught as a second language subject in primary and secondary schools since the 1960s (MacKinnon, 1986). The first time that Gaelic was officially used in the classroom as a means of instruction was during the action research Bilingual Education Project in the Western Isles, started in 1975. Murray and Morrison (1984), the project directors, agreed to conduct a three year pilot programme of bilingual education, developing a Gaelic-English curriculum in a few primary schools in Gaelic-speaking areas. Twenty schools were involved initially amounting to some 1,100 pupils, or 20% of the total primary roll of the Western Isles. Initial impressions of the project team were that there was "a bewildering mixture of uncertainty, contradictory attitudes and practice among teachers that affects profoundly the use of Gaelic in schools" (Murray & Morrison, 1984, p. 10). Teachers would prefer to use English in school and some taught English first, regardless of the pupil's background or linguistic ability. There were doubts as to how fluent pupils were becoming following this model of bilingual education and educationalists, language activists and parents realised that a different approach was necessary (Robertson, 1999). One reason given by D. J. MacLeod (2003) was that the teachers had been taught and trained in English and had gradually drifted towards English. This was an example of how the term 'bilingual education' did not in fact fully deliver fluency in Gaelic. Some teachers doubted their own ability to teach in the bilingual medium and were unsure of the project.

However, many said their pupils spoke little Gaelic in school and could see that the project would help to raise the standard of language used.

The project was seen as a source of more and better Gaelic resources and teachers were willing to help prepare materials. The Scottish Education Department supported the project financially along with Comhairle nan Eilean (the newly-formed Western Islands Council) and one spin-off was to be the production and publication of several books and resources. The bilingual project attempted to bring the home tongue into the school but, after a few years, concerns were raised about the level of Gaelic achieved by pupils and parents were not happy with the rate of progress some schools were making with the project. A similar scheme was attempted in 1978 in five schools in Skye but although its aim was for children to access a school curriculum in Gaelic as well as in English it did not appear to produce fluency in Gaelic among the pupils. The bilingual model, in what was now a largely Anglophone environment, did not appear to work. Educationalists, parents and language activists then realised that a different approach to Gaelic education was required (Robertson, 1999). They took their inspiration from Welsh-medium education which had been well established since the 1940s. It was perhaps apt that just then D. Thompson (1976, p. iii) claimed "this is a good time for fresh analysis of Gaelic's role in the life of Scotland".

This impetus, having started in 1975 with the Bilingual Education Project, was continued in the form of Gaelic-medium playgroups, the first of which was set up in Oban in 1980 in an attempt to arrest the apparent decline on Gaelic language usage. Comhairle nan Sgoiltean Araich (CNSA), the Gaelic Pre-School Playgroup Association now called TAIC, was set up in 1982 to promote the development of Gaelic-medium playgroups. Its main focus is on language; only Gaelic is spoken and children from non-Gaelic speaking backgrounds are soon able to understand what is said to them and are able to speak some Gaelic before starting school. The introduction of these playgroups had a major significance in the advancement of Gaelic-medium education. Gaelic-speaking parents ran the playgroups as there was no local authority provision and their success, together with parental pressure, led to

demands for Gaelic-medium primary education. The first Gaelic-medium state-funded nursery class was established in Inverness in 1988 but D. J. MacLeod (2003) believed that this sector only took off after the government introduced a policy for nursery education in 1997. The rapid growth of Gaelic-medium education that followed was such that by 2010 there were 60 primary schools engaged in Gaelic-medium education, involving 2256 pupils (Bòrd na Gàidhlig, 2010), 58 nursery units and some 115 pre-school groups, showing just how successful CNSA has been since the 80s.

The first Gaelic-medium units in Scotland opened up in 1985 in Glasgow and Inverness. This followed considerable campaigning by parents and individuals and was welcomed as the greatest attempt at reversing the Gaelic language diminution since its decline and erosion over the last century. It was perhaps no surprise that the first Gaelic-medium units (and also the first Gaelic-medium schools) opened on the mainland and not in the Western Isles. Grant (1983, p. 135) suggested two reasons for this: the language is regarded as a 'national' concern and not limited to peripheral areas only and, Gaels living in the Lowlands are "more likely to be aware of the precarious position of their language, and, arguably, may have a higher proportion of the better educated and more sophisticated" who would have the skills and desire to put pressure on the powers that be. Interestingly, the first Irish-medium school of recent times was established in Belfast, outwith the Gaeltacht, by a small number of Irish-speaking families who wanted to raise their children through Irish-medium education. In Scotland, numbers of pupils were small in the first few years, 24 pupils in 1985, but increased steadily as more people became aware of the existence of Gaelic-medium education. Between 1993 and 2001 the number of Gaelic-medium primary teachers also grew from 60 to 150. However there continue to be concerns about the lack of teachers choosing to teach in Gaelic-medium: "Even the budgeted number of places available is not being filled and the minimum number of new entrants required in Gaelic-medium teaching is not being met" (HMIE, 2005, p39).

Depending on where one lives, it is now possible to receive a Gaelic education from pre-school to post-graduate level (Robertson, 2000). "The status of Gaelic is now protected by law and a variety of public bodies have produced Gaelic Language

Plans that show a commitment to the language that was not afforded to previous generations of Gaels" Morrison (2010, p. 2). Opportunities now exist for those who can speak the language that did not exist a decade ago nor in previous generations.

5.3 Gaelic-Medium Resources

"Schools should aim to bring pupils to the stage of broadly equal competence in Gaelic and English, in all stages, by the end of Primary 7," (SOED, 1993, p. 6). In order to achieve the aims of the 5-14 guidelines, children are involved in an immersion programme for the first two and a half years. This means that the children are taught solely in Gaelic for Primary 1, Primary 2 and for the first half of Primary 3. In theory, this should give the children from non-Gaelic-speaking homes a basic competence in the language and reinforce the skills of Gaelic-speaking children. When children have attained Level A[6] in Gaelic language skills – talking, reading, writing and listening – English reading and writing is gradually introduced. Children continue learning through the medium of Gaelic but from Primary 4 onwards English may be used in some lessons. As this applies across all curricular areas, a wide variety of teaching resources are required in Gaelic.

In the early days, no specific resources were available and teacher training in immersion education was nonexistent. MacKinnon (1987, p. 25) stated that "the material in current use in primary Gaelic teaching schemes is of diverse origins". For some time, teachers learned as they taught and adapted English materials for use in frequently small composite classes. Gaelic reading schemes did not exist and in Sir John Maxwell Primary School in Glasgow, at first, the original twenty-four pupils were given the only available texts published in Gaelic for children, such as the "Spàgan" and "A' Stobag Bheag" series which were written for fluent readers of Gaelic twenty years earlier as part of the Bilingual Education Project in the Western Isles. Prior to the project there had been a dearth of resources especially of good upper primary reading books (Murray & Morrison, 1984). The project had adapted

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[6] The first level of achievement in the Scottish 5-14 Curriculum.

the 'Breakthrough to Literacy' scheme for the Gaelic classroom accompanied by a word book 'Na Facail'. A number of other titles including original texts as well as ones with Gaelic overlays were published mainly through Acair, the publishing enterprise associated with the project. The Gaelic Books Council and Gairm also helped to publish further titles for children.

In Sir John Maxwell Primary School, of which the Gaelic unit was a part, the core English language reading scheme was the widely used 'Oxford Reading Tree', so it was decided, as the unit expanded, that this was better than the available 'native-speaker' texts. Books were sent home to parents who were literate in Gaelic and texts were translated into Gaelic. Paste-over translations meant that the books could be used as a sequential scheme and teachers felt slightly more comfortable using a resource that they were familiar with from their training and English-speaking teaching backgrounds. This used the 'look and say' approach to reading involving analytic phonics as discussed in Chapter 3.6. However, this resource, whose original English version had been the result of extensive research by its authors into English language acquisition, and phonological processing skills in particular, still relied on pupils' knowledge of the Gaelic language to be fairly advanced. There had been no systematic examination of the vocabulary, syntax or complexity of language used and often individual island dialects were used in translations without any uniformity, for example '*uisge*' in one book, '*bùrn*' in another, both words meaning 'water' but using words from different dialects of Gaelic. At the time, this was not deemed to be particularly important as indeed teachers themselves came from different Gaelic areas and used the dialect of their own island or area of the mainland. Furthermore, there were no follow-up language comprehension workbooks, teacher manuals or reading games which are available in the English scheme. Nisbet (2003, p. 57) summed up the practice well: "the need to do this amateurish adaptation increased the sense of Gaelic being the poor relation in educational terms".

As more pupils became involved in Gaelic-medium education and the numbers of teachers increased, better resources were demanded. Two primary teachers from the Glasgow Gaelic-medium unit were seconded by Strathclyde Region to write a

phonics scheme using analytic phonics methodology – 'Fuaimean is Fealla-dhà'. Some other resources used at that time were 'Duilleagan-obrach air diosc (airson Applemac)' by Western Isles Council; 'Eilean Litreach' from Barra; 'Obair Phonics' by Western Isles Council; 'Frìs-aibidil' with alphabet cards; 'Mo Chiad Leabhar Sgrìobhaidh' from Western Isles Council and 'Sreath leabhraichean obrach air phonics/fuaimean' from Highland Council. An Irish reading scheme was translated into Scottish Gaelic and this was used for some time but still had the problem that pupils encountered too many words with which they were unfamiliar and didn't use at all in their daily lives in school. What was required was a scheme which used vocabulary pupils understood and used regularly but at the same time would give some linguistic progression. This meant looking at the language introduced at the pre-school stage and using this initially and building on further language that a pupil would encounter in later stages of Gaelic-medium education. In 1987, MacKinnon had recommended that the production of materials by teachers, working parties and individuals required management by a resource centre that was adequately financed to coordinate all resources for the teaching profession.

It was to be some twelve years before that recommendation came to fruition. Stòrlann Nàiseanta na Gàidhlig is the government funded provider of books, resources, support and curriculum advice for Gaelic-medium teachers and pupils that arose from a recommendation in the Scottish Office Education Department report (1994). Established in 1999 by the Scottish Executive, its planning and priorities are set by teaching staff and advisers in local authorities through the management review group consortium (MRG) which is comprised of representatives of local authorities in receipt of specific grant for Gaelic funding. For Gaelic language, the main reading scheme now used by most pupils is a Gaelic version of the Heinemann reading scheme 'Storyworlds'. The scheme is supplemented by workbooks and worksheets providing opportunities to extend reading, for discussion and oral skills. The most recent additions to primary Gaelic literacy resources are 'Facal agus Fuaim' (2005), a phonics pack for Gaelic-medium pupils; 'Lorgan Litreachaidh' (2009) a language and literacy resource,; and 'Fuaimean Fonaig Ghàidhlig' (2008) - ninety different foam magnetic linked letters including vowels with accents for teaching phonics.

These resources were based on the recommendations of the phonics report by Ionad Chaluim Chille Ìle (2003). These are complemented by the BBC programme 'Fàilte gu Fuaimean', which provides learners with a creative and flexible online resource encouraging phonological awareness. The multisensory programme uses rhyme and rhyme couplets to enhance pupils' awareness of Gaelic sounds through stories about the characters *Cù Caol, Cat Cadalach* and *Luchag Luath*. Recently three books published by Barrington Stoke in Gaelic have been written for reluctant or dyslexic readers. Other than these, there are no resource materials specifically for pupils with additional support needs.

The fast-growing development of the use of microcomputers in schools was originally considered a threat to Gaelic through increased exposure to the English language. However, a Gaelic website for teachers, *Ghàidhlig Air-loidhne,* has been developed in recent years by Learning and Teaching Scotland, and managed by Stòrlann to support and enhance teaching and learning in the classroom. It aims to hold a well-stocked resource base for teachers to download materials and share good practice. It also contains some interactive activities for all stages and in a variety of curricular areas which are often differentiated to provide work at various levels. Teachers can access support materials to help them engage with and implement *A Curriculum for Excellence* in Gaelic and can also log onto GLOW, formerly the Scottish Schools Digital Network, an online core element of support for *A Curriculum for Excellence.*

In The Highland Council, several ICT resources have been introduced to two Gaelic-medium nurseries to interest and engage pupils to promote their confidence and competence in using Gaelic, especially as the majority of parents are not fluent Gaelic speakers, meaning that Gaelic is an additional language for most of the children. A variety of television programmes have appeared over the years, especially aimed at young children. In the 1980s, Gaelic versions of the Welsh 'Superted' series and the English 'Postman Pat' appeared alongside the publications of the Gaelic versions of the books. Many other programmes began to appear on children's television such as 'Dòtaman' and 'Seall Seo!' which gave young listeners the opportunity to hear Gaelic speech and songs in natural pre-school settings. There

are many more programmes available today especially now that MG Alba has become the dedicated Gaelic television channel. These all contain very important pre-school listening experiences for young Gaelic learners, especially if they do not live in a Gaelic-speaking area.

In 2004, in Learning Teaching Scotland's magazine Early Years' Matters, two new initiatives were described to augment Gaelic pre-school opportunities, one in Skye – Fàs Mòr, a Gaelic-medium childcare facility at Sabhal Mòr Ostaig, Skye, providing care for children from 0 to 12 years, the second consisting of Family Learning Plans set up by the former Comhairle nan Sgoiltean Àraich (CNSA), now TAIC, in Skye and Lochalsh, Lochaber, Inverness and Nairn, and the Western Isles. In 2003, CNSA, the Gaelic pre-school council, piloted a new method, Immersion Learning for Pre-Threes, which would reduce the time taken for a child to achieve conversational Gaelic from 2,000 hours to 400 (MacKinnon, 2003). The methodology was pioneered in New Zealand and Hawaii and by teachers in Scotland working with the children of asylum seekers. Since then, the methodology has been used to create a variety of courses by way of 'Total Immersion Plus' including 'Gaelic in the Home' courses aimed at parents of children aged 0 to 3 years. Recently parents have benefited from a new on-line resource which complements the series of Gaelic Nursery Language Links books by Edinburgh City Council giving parents the opportunity of hearing Gaelic phrases spoken. This free resource gives an alternative way for parents to read the stories, and simultaneously to hear the correct pronunciation. The actual books are also available to be read independently.

It is very important for children to have well-developed spoken language skills as these influence their progress in every area of the curriculum. Fluency, competence in and comprehension of spoken language are the keys to being able to learn effectively, according to Riley, Burrell and McCallum (2004). The majority of pre-school children acquire spoken language simply by being exposed to speech at home. They do not need to be taught explicitly how to speak. However, pupils in Gaelic-medium immersion education require considerably more exposure to Gaelic language and pupils will reach stages at different times according to the Highland

Regional Council (1995). Spoken language needs to be developed both as a language for thought and as a basis for developing literacy skills and achieving access to other curricular areas. The emphasis on the functional aspects of language is important as it highlights the significance of communication. While employed as a Gaelic teacher in a Gaelic-medium nursery the researcher used a checklist to assess understanding and speaking Gaelic created by the Glasgow Gaelic Primary School (Appendix IV) to identify the linguistic proficiency of the pupils before they moved on to primary school. This looked at communication and technical aspects of language, two of the four areas recommended by Learning and Teaching Scotland (2005) for good practice in assessing bilingual pupils but perhaps it could also contain some tasks of phonological awareness as well. The Highland Council (1999) produced sample language targets for every term in nursery and for every primary class as well as three assessments which were aimed at assessing pupils' listening, speaking and reading skills in Gaelic – *Measadh Tuigse, Measadh air Comas Labhairt* and *Measadh Leughaidh* (2001).

In Scotland, an increasing number of English-speaking parents are opting to send their children to Gaelic-medium schools. Stephen, McPake, McLeod, Pollock and Carroll (2010) commented that the majority of pupils now in Gaelic-medium pre-schools come from homes where only English is spoken. They cited a SEED study (2007) which found that less than 1% of families used Gaelic in the home in 2004-5 implying that children often come to school with very little or no Gaelic in many cases. This is similar to the picture in Wales and Ireland where in the South-East of Wales, over 90% of the intake came from non-Welsh speaking homes (Pritchard Jones, 1998) and Hetherington (1998) described how the Head Teacher of Scoil Lorcáin, in the suburbs of Dublin, found that "in any year's intake of sixty children she would be lucky to find two from Irish-speaking homes." A disadvantage for a child of being a non-native speaker of Gaelic in areas apart from the Western Isles is that the school is often the child's sole constant source of Gaelic. Frequently there are no Gaelic-speaking relatives to provide linguistic support through regular contact with the child. The Lèirsinn report (2000) stressed the importance of the parental role in enhancing the Gaelic language competence of children and Baker (2002)

agreed that children need to be exposed to a growing amount and variety of language in a mixture of contexts for 'a realistic chance of bilingualism'.

Information and frequently asked questions on Gaelic-medium education from pre-school to secondary has been available to all parents in booklet, video or online PDF file entitled 'Fios is Freagairt', produced by Comann nam Pàrant in 1997 and updated in 2007. Stòrlann has recently made a range of free interactive resources for families available on their website – 'gaelic4parents.com'. The site offers multisensory resources to support parents of pre-school and primary age children irrespective of parental Gaelic language ability. The site acknowledges that there is not a wide selection of resources for pupils with additional support needs and that the pool of Gaelic-speaking Educational Psychologists, Speech and Language Therapists and Support for Learning Teachers is limited. Several pre-school books are available to listen to or download onto CD-Rom or MP3 player and all 144 books of the nine series of 'Storyworlds' books are also available to listen to. On this site, parents can also access live support with homework. The recent appearance of Ùlpan courses has also helped parents to learn Gaelic in a fast and effective way. The methodology originated in Israel and has been used to great effect in Wales, where Wlpan has brought thousands of adult learners to fluency in Welsh.

Galloway (2006) researched the opportunities available to Gaelic-medium primary pupils in Highland Council and gave a detailed review of organised activities in the communities, of numbers of Gaelic speakers and of support for parents. He concluded that there was not much of a Gaelic presence at a local community level and few Gaelic speakers with the time, inclination and appropriate capability who were not already involved in Gaelic in some way, for example, teaching. Indeed, Morrison, Chief Executive of An Comunn Gaidhealach (2010, p. 2), believed that tuition in music was more readily available to youngsters but "I am not sure that the opportunity to use the Gaelic language as a language of everyday life is as strong as it was when I grew up in Lewis." Donaldson et al. (1997) concluded that parental language input as well as a child's language preference all influenced a child's mastery of Gaelic grammar.

The lack of access to a Gaelic-speaking environment can, however be compensated for through a range of Gaelic-related activities organised by parents and school in partnership with one another. In 2007, there were 30 constituted parent groups, Comann nam Pàrant (CnP), throughout Scotland, represented in Comann nam Pàrant Nàiseanta by 15 regional members. The main aim of these groups is to support and promote the establishment and maintenance of education through the medium of Gaelic. A CnP group can provide a good support mechanism for pupils in Gaelic-medium education by encouraging extracurricular activities in Gaelic, such as the *Sradagan* youth clubs. There are 40 constituted *Sradagan* throughout the country. Enhanced exposure to Gaelic in these groups not only supports and reinforces the school-based learning, but extends the learner's use of Gaelic to a wider range of language domains. Fergusson (2001) recognised that it is crucial for children to have opportunities outside the classroom to use the language for real communicative purposes as this will have lasting consequences.

Established in 1988, *Fèisean nan Gàidheal* is the National Association of Gaelic Arts Youth Tuition Festivals. *Fèisean* originated on the Isle of Barra in 1981 when a group of people organised a tuition festival aimed at reversing the decline of Gaelic music, song and dance, and today 13,000 young people participate annually in community-based Gaelic arts tuition festivals throughout Scotland. Participation in local Mòds, *fèisean* and indeed ceilidhs can enhance Gaelic's profile and help to raise confidence in fluent speakers and learners alike. It is vital, according to Fergusson (2001), for sustained bilingual competence that children are encouraged to think of Gaelic as a language which can and should be used outside the classroom. As Saunders (1988) pointed out, there are difficulties when children are constantly engaged in communication with other English speakers of various ages and are exposed to much more English than Gaelic in their environment. Parents have to try to combat the dominance of English in the environment by making use of some of the support strategies suggested in the home.

5.4 Gaelic immersion support for learning

The Gaelic Language (Scotland) Act has raised the profile of the language for the general public, but it has also prompted educationalists to seek parity of provision. HMIE (2005, p39) recommended that national bodies, working together, should "explore means by which schools and authorities in collaboration with other education and health professionals can work towards meeting the needs of pupils with additional support needs." The Education Additional Support for Learning (Scotland) Act 2004 and the Education Additional Support for Learning (Scotland) Act 2009 provide a framework of support which includes having additional support needs identified. While acknowledging the relatively short life of Gaelic-medium education so far, teachers, some of whom have benefited from Gaelic-medium education themselves, feel disparaged by the lack of equivalent educational resources in Gaelic. The immersion curriculum is exactly the same as the main curriculum in Scottish schools, therefore it would only seem fitting that pupils educated through the medium of Gaelic should have access to the same level of support when needed. At the official opening of Scotland's second Gaelic primary school in Inverness in January 2008, the First Minister, Alex Salmond, pledged more resources for Gaelic schools and stated that "Gaelic is an integral part of Scotland's identity and a vital part of the community life and culture, and we want to give more support to councils to deliver Gaelic" (Gaelic News, 2008). With a promise like this perhaps teachers in the Gaelic-medium sector will soon feel more confident that their pupils are receiving the support they require.

Very little published literature exists that deals specifically with additional support needs in Gaelic-medium education. However, despite this, Scottish education authorities have a statutory duty to make provision for additional support needs and for the teaching of Gaelic in Gaelic speaking areas. In a national policy for Gaelic education, Comunn na Gàidhlig (CNAG) (1997, p. 5) offered the following advice to local authorities planning Gaelic educational provision: "pupils with special educational needs should have access to Gaelic medium education, with appropriate support provision." However, HMIE in 2005 found that the lack of materials for pupils with additional support needs was an important area of weakness. The

Scottish Executive was asked, in November 2006, what provision was made for identifying learning difficulties such as dyslexia in students in Gaelic-medium education. The written response given by Hugh Henry, Education minister (2006), indicated that there were few Gaelic-speaking additional support needs teachers and auxiliaries available to support the needs of Gaelic-medium pupils with additional support needs. Further, there was no differentiation between the level of support provided to Gaelic-medium pupils and other pupils. He indicated that the Executive was addressing the staffing issue by providing funding for Bòrd na Gàidhlig to appoint a Gaelic Teacher Recruitment Officer following the recommendation of the Gaelic-Medium Teachers' Action Group. The Highland Regional Council (1994, p. 7) agreed that the range of learning support materials available for Gaelic-medium education was very much less extensive than those available for English-medium pupils and stated that "there is now a need to develop learning support expertise and materials to further widen the range of educational needs which can be provided for within GM provision". It is this particular gap that the current research hopes to fill.

Resources that exist for pupils in English-medium schools are extensive and extra support can be given using a wide range of products. Catalogues of published resources in phonics, onset and rime, sounds, phoneme awareness, rhyming and syllable blending are available for teachers or for Support for Learning Staff to choose the most appropriate materials to address a child's difficulties. These materials are numerous and many are attractive ranging from card and board games to photocopiable worksheets and computer software programmes. In-service training courses are also widely available for Support for Learning Teachers in a range of topics in English but do not exist for Gaelic-medium teachers. It should be noted, though, that a conference on 'Gaelic-medium education for children with speech, language and communication difficulties' was organised jointly by a speech and language therapy manager, a Gaelic education adviser from Highland region and the former Comhairle nan Sgoiltean Àraich (CNSA), now TAIC, in 1995.

A previous study of pupils in Primary 1 showed that problems experienced with reading or developing phonological skills appeared to be similar for English-medium

and Gaelic-medium pupils (Lyon, 2003). Unfortunately the pupils' difficulties only begin to emerge at the end of Primary 1 and at the beginning of Primary 2. By Primary 2 and Primary 3 there appeared to be an increase in reading difficulty in both settings, however, there was a higher incidence in Gaelic-medium schools. Both the Immersion Policy and Bilingual Policy provided by the Glasgow Gaelic-medium unit in the late 1990s made no reference to pupils who might be in need of support for learning. However, Highland Regional Council, in 1995, published a document describing the stages through which non-Gaelic-speaking pupils would pass to enable their progress to be monitored. In this document there is frequent reference to pupils who might have 'special needs' and require 'close monitoring and support' and teachers are referred to the Education Department's document 'Guidelines on Record Keeping, Assessment and Monitoring: an integrated approach to pupil support.'

Considerable research has been carried out to try to identify the indicators of what are good predictors of later reading in English speaking schools and it has become clear that phonological awareness is a pre-eminent factor (Hatcher, 2000; Muter and Snowling, 1998; Vellutino et al, 2004). Pupils, who appear to be doing well in many other ways but are missing out on the ability to spot the onset sound or rhyming patterns of words, frequently struggle at a later date. For a baseline assessment to be meaningful, children must have a similar starting point. It should be strongly related to the children's later achievement and correlate with later outcome measures (predictive validity). In the schools surveyed by Lyon (2003), albeit from a variety of councils, inconsistency was found; 39% of schools used baseline assessments and half of these were in Gaelic, half in English; 44% of schools stated that no assessments were carried out at all. Clearly from comments from teachers and interviewees a form of assessment would help to identify pupils. Robertson (2000, p. 99) also indicated that an Education Action Group of CNAG had found considerable variation between local authorities "in terms of the level of service and of supportive infrastructure". Too often parents are in the situation where "a child with learning difficulties fails to receive learning support through the medium of Gaelic but

through English or the parents are told the child would be better off in main-stream education" (Charity, 1998, p. 29).

## 5.5 Present methods of identification of reading difficulties

It is important to establish the purposes of assessment to ensure that data collected and analysed will produce reliable and valid results. The most effective assessments in the early years, according to Siraj-Blatchford and Clarke (2000), are those that are embedded in the whole curriculum. The aim of language assessment must be to identify linguistic abilities and disabilities and to offer a diagnosis. Aburdarham (1980) argued that a child from a bilingual background should be allowed to respond to a vocabulary test in either language. Stokes and Duncan (1989) believed it is most important that this assessment is carried out in both the child's languages, in this case Gaelic and English, and that the assessor is bilingual. Fergusson (2001) made the recommendation that the local authority should ensure that intervention in terms of learning support should always be provided by a fluent Gaelic speaker.

C. MacLeod (1999, p. 27) highlighted the dearth of Gaelic resources for learning difficulties and stated that it needs to be made clear to parents that "no research has been carried out in the learning difficulties field in Gaelic, and there is insufficient support. Specialised provision is only available in English". Previous research (Lyon, 2003) identified one council which stated that Gaelic-medium pupils experiencing difficulties could not be formally assessed in Gaelic as no standardised tests exist for Gaelic Education. They would be tested in English by an Educational Psychologist with the support of the pupil's Gaelic teacher. Gaelic teachers sometimes feel they do not have access to services such as Support for Learning or Gaelic assessment resources, and Highland Council expressed concerns that these perceptions could have a negative effect on Gaelic-medium education (The Highland Council, 2002). On the other hand, English-medium staff and parents sometimes refer critically to Gaelic teachers having smaller classes and extra funding. R. Ward (2003) named one of the methodological challenges for most Gaelic-medium teachers as having to deal with the shortage of Gaelic-speaking support service staff to assist with pupils who have a specific learning difficulty and Nisbet (2003, p. 57)

reiterated this by stating that "if GME is to continue to make appropriate provision for children with special educational needs, a way must be found to secure the services of professionals who will make this possible."

The different forms of assessing pupils in both Gaelic and English- medium schools were identified by Lyon (2003) and are displayed in Figure 3. Schools were asked to name resources used for assessing pupils and responses were very varied. Within Gaelic-medium schools nearly half stated there was no assessment carried out mainly through lack of specific resources. Several teachers referred to their own teacher-made assessments and core reading material. Some Class Teachers identified pupils who were experiencing problems through normal class work. Two schools used the Highland Region Pack at Primary2 which is a translation of an English Baseline Assessment and focuses on a child's familiarity with Gaelic. This consists of 'Measadh Leughadh', a reading test published in 2001. There is also an assessment of Gaelic conversation, 'Measadh air Comas Labhairt', which measures if pupils are able to converse in sentences. 'Measadh Tuigse' uses a series of questions and pictures to assess pupils' understanding of Gaelic. Two schools mentioned the use of Classroom Assistants and three said Learning Support Teachers were involved in the assessment procedure.

Figure 3. Language of assessment methods/resources for reading, spelling and baseline screening in Gaelic-medium units and primary schools in 2002
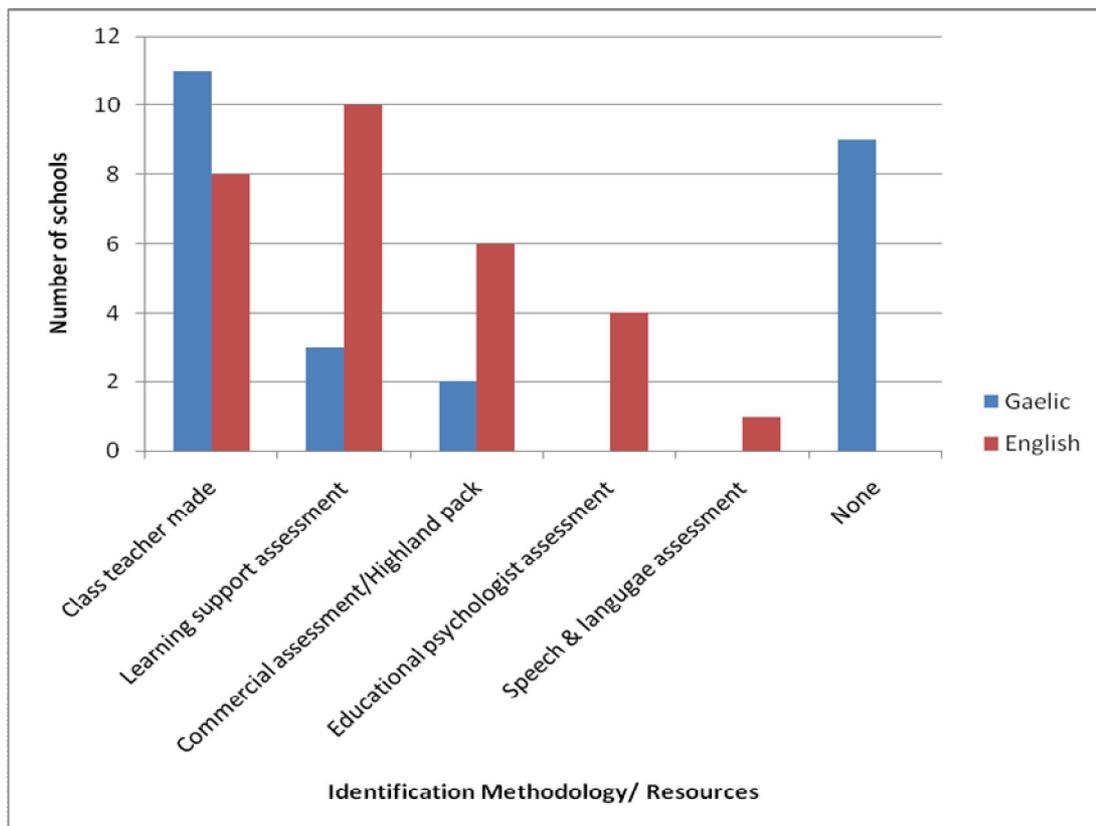
Lyon, 2003

A study conducted in four primary schools providing Gaelic-medium education found that the majority of children with special educational needs were users of Gaelic as a second language and came from homes where Gaelic was a second language or was not in use (MacLeod & MacLeod, 2001). Learners had a range of needs, including those with social, emotional and behavioural difficulties, learners with dyslexic type difficulties, pupils with autistic spectrum difficulties, Down's Syndrome as well as some with physical disabilities and more general learning difficulties. Their findings were based on teacher interviews and classroom observation. Teachers in MacLeod and MacLeod's study frequently raised concerns as to whether pupil's difficulties in Gaelic were associated with L2 alone or whether the same disorder would be present in L1. The teachers were particularly concerned about how the use of Gaelic made assessment, identification, diagnosis and

intervention more complex. They recognised that the unique aspects of language development and emergent literacy in Gaelic-medium immersion necessitate specific resources and approaches.

The Highland Council is one of the few local authorities with a policy about learning support in a Gaelic-medium setting. It stated that a child suspected of having difficulties should be assessed at the nursery/ Primary 1 stage, using Early Years Easy Screen (EYES) written in 1993, or similar tests, and that the test should be administered in the language with which the child appears to be most comfortable. If a language problem was suspected it should be investigated in the home language by an appropriate professional. Clear guidelines were given as to what to do if, by the end of the spring term in Primary 1, a pupil had not achieved the appropriate level of understanding of Gaelic equivalent to the Immersion Stage of the oral language schedule, as it said that this level of understanding is a pre-requisite to starting to read in Gaelic. Learning support staff, Area Senior Teachers or an Adviser could assist in carrying out the Council's oral language tests. Signs that a child might have "a severe, specific learning difficulty" were listed in the Highland Regional Council document as:

> *1. Severe difficulties in acquiring any useful reading or writing competence*
> *2. Difficulties in learning common sequences e.g. the alphabet, days of the week, months of the year, times tables*
> *3. Difficulties in remembering and repeating sentences, rhythms and rhymes*
> *4. Difficulties with visual memory and copying shapes*

<div align="right">Highland Regional Council (1994, p. 6).</div>

The policy also suggested that adaptations of standard screening tests might be used to help identify other general difficulties. It stated that if a child had not reached the desired level in oral Gaelic by Primary 3, then reading in Gaelic should be postponed. A further document referred to a means of assessing fluency: "The pupil's progress in understanding and speaking Gaelic should also be assessed at this stage against the oral language schedule, using the tests which have recently been developed" (Highland Regional Council, n.d., p. 5). This referred to *Measadh Bogadh* which

was used to assess understanding of spoken Gaelic. In cases where extra support and additional oral language reinforcement had been implemented and oral competence had not been gained, it stated that it would be better for the child to move into English-medium education. This decision would only be made after reviewing the child's progress over a period of years; assessing the nature of the difficulty, language production being most significant; taking into account the home language; establishing whether or not the authority and other agencies were in a position to offer the necessary support in the Gaelic language. Sadly, not all councils offer such guidelines on assessment procedures in Gaelic-medium education.

Screening tools cannot simply be translated into Gaelic from English as the languages differ considerably in grammar and sentence structure and young Gaelic learners do not have the wide vocabulary required to explore sounds, rhyme, alliteration and nonsense words. Saunders(1988) created a German language version of the Peabody Picture Vocabulary Test (PPVT) keeping in mind the dangers of test translation expressed by researchers like Wiliam (1971, p. 29) : "an ad-hoc translation (of tests) creates a testing situation in which discrimination and difficulty values of the test items are not known therefore the validity of the items is uncertain." While it is quite possible for an item to retain a degree of validity in translation he believed it is unwise to rely on the original testing norms as an indication of validity in the new language.

Most assessment in Gaelic-medium education takes place in the classroom on an ongoing basis by teachers as part of their teaching. This process of assessment is highly individualistic and is not standardised from one classroom to another. Although it is good practice to measure what pupils have learned, informal teacher-made assessments can be subjective. On the other hand, Wolf (1993) argued that knowledgeable teachers can design and carry out assessments that provide accurate and pertinent information about their pupils' achievements. However, some teachers often hesitate to use these informal tests for providing evidence or presenting parents and colleagues with information, and prefer to use results from an authentic or trustworthy assessment measure which has a degree of validity and reliability.

Before any pupils can be identified as having a difficulty in phonological awareness in Gaelic, information is required about normal phonological development. As is the case with many minority languages, this information is not yet available for Gaelic-medium pupils therefore it is necessary to consider the best ways of finding out about the stages of phonological development in Gaelic by creating an assessment and examining the results.

As there has been no previous research specifically about phonological acquisition in Gaelic, this study attempts to find out if an assessment of phonological awareness can be created in Gaelic and used to assess pupils in the early stages of language acquisition. This could then be used alongside assessments in English. Some teachers of Gaelic-medium have attempted to translate existing English tests into Gaelic. Chapter 3.7 described how the different phonology and structure of Gaelic would make this a difficult task. Most schools give baseline screening to pupils shortly after school entry but as Gaelic-medium pupils may have only a limited amount of Gaelic vocabulary and little exposure to the language at the early stages of their education this would not be an appropriate time to assess them in Gaelic. It is, however, desirable that pupils are identified as early as possible.

This section has considered how Gaelic-medium education has developed with particular focus on how pupils with additional support needs are supported. The coming chapter will detail the methodology used to investigate how to measure the phonological awareness of pupils in the immersion stage of Gaelic-medium education and the difficulties that arose in creating an assessment tool for all pupils, fluent and learner.

Chapter 6: Methodology

6.1 Research questions

The research questions which emerged from a review of the relevant literature were:

- How might Early Intervention screening help to provide effective literacy support in the early stages of Gaelic-medium education?
- Is it possible to measure a pupil's phonological awareness using Gaelic?
- What are the difficulties that arise in creating a phonological awareness assessment tool in Gaelic?

6.2 Overview

This chapter sets out the methods used to investigate a number of the main issues that concern the study's methodology. It explains the design and method of research, the construction and piloting of the data-gathering instruments and the rationale for the approach for this study. It begins with a brief overview of the major research strategy used. The format of the interpretation of the data, the validity and reliability as well as ethical issues will be explained as well as a summary of the test development process.

In order to find out how to measure the phonological awareness of pupils in the immersion stage of Gaelic-medium education, it was necessary to analyse instruments used to measure the phonological awareness of pupils in English and in other languages. An examination of the difficulties that arise in creating an assessment tool that could be used in the early years of Gaelic-medium schools several factors had to be investigated. Data was collected from teachers using questionnaires and interviews in response to a test instrument designed specifically to assess phonological awareness in Gaelic.

6.3 Rationale

Most English-medium Primary schools in Scotland use a variety of linguistic assessments to screen pupils in the early stages of literacy. The results of previous

research, Lyon (2003) and MacLeod and MacLeod (2001), revealed a lack of an appropriate form of assessment for identification of pupils in the early stages of Gaelic-medium education who have reading delay or difficulties developing phonological skills in Gaelic. In order to assess pupils' phonological awareness, initial consideration had been given to assessing pupils in English using a published assessment, and then in Gaelic using a newly devised test. The results could then be compared. Unfortunately most schools did not possess any published tests and moreover, teachers would be reluctant to spend time testing pupils twice. Also it would have been unrealistic to have to purchase an existing test to send to schools.

Eraut (1994, p. 232) argued that in order to use a 'profession-centred approach' when making good decisions, "a professional needs to be a good investigator, knowledgeable about options, able to reason critically and able to learn from experience". It was essential to look at the different types of monolingual screening assessments in English for their design and content so that a new assessment tool in Gaelic could be devised. A review of research literature and an examination of current instruments used for assessment purposes was required before decisions could be made about what were the most important and relevant subtests to choose. The test development is described in Chapter 7.4.

6.4 Possible approaches to the study of phonological awareness in Gaelic

The choice of methodology was made to concur with the purpose of the study, the type of information being collected, the time and resources available as well as the socio- economic-demographic characteristics of the study population. No method of data collection will guarantee 100% accurate and reliable information, but the following methods were chosen to combat the disadvantages of distance, lack of literature, bias, as well as practical issues. Content analysis is a method involving the collection of classes of data which are then studied to discern patterns and help to formulate principles that might guide future action. In this study, content analysis was used to examine a number of different tests that exist in English to assess

phonological awareness, and patterns of phonological skills tested were gathered to assist the production of a screening test of Gaelic phonological skills.

Primary research should produce information precisely tailored to the research needs of the study and gives direct access to information which is why interviewing, and questionnaire, two of the three main types of primary source data collection, according to Kumar (1996), were chosen. Primary data collection of phonological awareness development on this scale has not been previously attempted in Gaelic-medium education. With this in mind, several different research methods are used to verify the data and help to add credibility and make the findings stronger. Mouton and Marais (1993) used the phrase "triangulation" to describe the use of multiple research methods to increase reliability and compensate for the limitations of each method. For this reason more than one primary source was used in this study.

Observation is a method of primary data collection and a useful way of gathering information, which in this case would have involved spending time watching pupils in their present state. However, the very presence of an observer can alter the behaviour of the subjects and the information gathered could be degraded as a consequence. An observer can interact with the subjects or simply take a passive role but as this study concerns the measurement of phonological awareness as part of the normal teaching process it was decided that Class Teachers were best placed to comment on their pupils' progress by giving them a tool with which to measure their development. Observation studies also have the disadvantage that conclusions can be drawn too quickly as generalisations about what has been seen need to be made. Hopkins (2002) believed that moving to judgement too quickly is one of the greatest pitfalls of poor classroom observation. In this study that might mean observations in six or seven classrooms leading to conclusions being drawn about all Gaelic-medium pupils, where in fact differences might lie in schools in areas where more Gaelic is spoken compared to non-Gaelic speaking areas. In addition, schools in one authority might use particular resources that strengthen the development of phonological awareness and if observations were mainly in that authority then conclusions could be drawn which might not reflect all schools.

Both interview by telephone and questionnaire were chosen to gather the information required because they offered anonymity, were easier to administer from afar and were more appropriate for collecting teachers' views on the assessment of phonological awareness. Data generated from both methods are both qualitative, in the form of opinions in words, and quantitative, through circling a response on a form. Open-ended questions could provide in-depth information from the respondents, resulting in a greater variety of information. The researcher's full-time teaching commitments would not allow time for face-to-face interviews as the majority of schools involved were situated some distance away. For the analysis of the interviews and questionnaires, a 'grounded theory' framework was used as the coding* derived from the data led to the formation of concepts and finally categories. Strauss & Corbin (1998, p. 65) recommended "coding the meaning found in words or groups of words" as this would enable complete openness and avoid looking for evidence to support any preconceived ideas. To aid the analysis of the qualitative data, the computer software package NVivo 8 was used. According to the NVivo 8 manual (QSR, 2008, p. 103), it is possible "to discover and explore patterns in your data, test hunches and create and validate theories." The quantitative analyses were aided by the use of the Statistical Package for the Social Sciences (SPSS) Version 17.

These methods of data collection were selected because they can provide the data required to produce a complete piece of research on phonological awareness in the early years of Gaelic-medium immersion education and help develop a standardised screening test. They were also chosen, despite being quite costly, because they overcame the geographical problems and helped to obtain complete coverage of the population under investigation. Use of interviews as well as questionnaires would enable as representative a range of responses as possible to be obtained. A well designed questionnaire yields unambiguous information and a good response rate according to Munn and Drever (1990). The ability to categorise answers makes information gathered from questionnaires easy to analyse, however the ease of circling a category can also cause respondents not to think an answer through.

The worth of this work is judged by the change in practice and improvement in provision that it could bring about by raising teachers' knowledge of phonological awareness and also providing a resource for teachers to use. This study will have achieved its aim if teachers find that the screening tool assesses their pupils' phonological awareness accurately and provides information for future teaching and intervention where specific difficulties lie. Previous research showed that teachers had identified a desperate need for assessment resources to be devised by 'experts' to identify pupils' specific learning needs (Lyon, 2003; MacLeod and MacLeod, 2001). Gaelic-medium pupils experiencing difficulties cannot be formally assessed in Gaelic at present as no standardised tests of phonological awareness exist for Gaelic education. The information gathered could allow professionals to improve practice by identifying problems with phonological skills at an early stage, and offer recommendations for intervention.

Other methodologies, such as diaries, action research or case studies would not have been appropriate research designs for this study. Diaries are a useful way of getting information on daily progress and can be used as an alternative to direct observation. However, they are quite subjective and Oppenheim (1966) believed another problem with diaries is that the participant's interest in filling the diary may cause him/her to modify the behaviour to be recorded. In this study, that could mean some participants might overestimate how strong their pupils' phonological skills were, in an attempt to cover up weaknesses or hide any problems that existed. It could become merely a log of when direct teaching of phonics takes place and that could be easily gleaned by simply asking to see a weekly timetable or forward plan. Participants could be reluctant to use diaries as they are very time-consuming and are open to bias or modification of behaviour.

Teacher-researchers often adopt the action research method to carry out classroom research projects. Hopkins (2002, p. 42) described it as 'action disciplined by enquiry; a personal attempt at understanding while engaged in a process of improvement and reform'. Action research cycles are very time-consuming for teachers to carry out and there is often a high drop-out rate after an initial bout of

enthusiasm. In this study, the researcher is in full-time employment and therefore unable to carry out this method of research as it involved finding out information from a good number of schools.

Case studies could have been carried out but would have been limited to a handful of children in one or two schools and that might not have been representative of the total population. The individuals studied may have had no difficulties with phonological awareness and the focus would have been more on the child rather than the information collected by the teachers. Case studies involve an intensive examination of one person or a small group of people and measures what is there and how it got there. One can explore and understand problems through one study which cannot be used for generalisations or be representative of a wider population. This method of data collection would have been unsuitable as only a vague hypothesis could be generated and no rigorous conclusion reached.

The main purpose of focus-group interviews is to gain insight into a problem by listening to a small group of people from the appropriate target group, in this case Gaelic-medium primary teachers. A trained moderator leads the discussion in an unstructured natural way talking about specific issues to be researched. This would have involved a handful of teachers discussing their knowledge of phonological awareness and the difficulties involved measuring its development in Gaelic-medium immersion classes. Having informally approached a few Gaelic-medium teachers with the idea of discussing this topic and having received a negative response this was not considered an option. Reasons given were vague but appeared to stem from uncertainty about phonological awareness. The fact that many Gaelic-medium primary units/ schools exist at some distance from each other also posed a problem for this approach.

6.5 Data Collection

The research data was collected in four phases. Initially an audit was made of tests of phonological awareness in English that are currently available and used widely in the UK by Educational Psychologists, Speech Therapists, and Support for Learning

Teachers and to a lesser extent by Classroom Teachers in order to establish the most appropriate subtests to include in a Gaelic test. It was necessary to ascertain what skills should be tested and by examining a large number of tests used in many English-medium schools, it was possible to select the most appropriate subtests. Having examined the stages of phonological awareness in English, a comparison of phonological awareness skills in other languages was made in order to find out if some of these skills are language-specific. The development of an assessment task to measure phonological awareness should be sensitive to the phonology of Gaelic.

The second phase of the research consisted of the test being administered to the pupils in Primary 2 and Primary 3 of the units/ schools by Gaelic-medium teachers and the results returned to the researcher to be analysed to see if they measured phonological awareness and if there was sufficient information to create a diagnostic tool for assessing pupils' phonological weaknesses. One school agreed to test-retest pupils in order to check the reliability of the assessment.

The third phase involved analysing the results of the questionnaires that had been completed by the teachers who had administered the test. Finally, a third of the respondents, who had volunteered to be contacted by telephone, completed semi-structured interviews in order to gather the opinions and views of Gaelic-medium Class Teachers who had administered the tests to gain a clearer insight into their experiences.

6.6 Data collection timetable

The review of phonological tests was made between 2006 and 2007 following which the screening test was created. Permission to approach Gaelic-medium units/ schools was sought from local authorities in the autumn of 2007 and the pilot study was completed in April 2008. Schools were contacted in the autumn of 2008 and the test folders with record forms were sent out as soon as schools agreed to become involved. Results and questionnaires were to be returned by the end of November 2008. The majority of results were returned by the end of 2008 but a few schools

took another three months to complete the tests. The test re-test took place in May 2009.

6.7 Selection of Sample

As there are relatively few Gaelic-medium schools/units in Scotland, only 60 in 2008, it was intended that all teachers of Primary 2 and Primary 3 pupils in the immersion stage of Gaelic-medium education should be involved in this research. In this way the research covered maximum sampling. Permission was sought from Heads of Education in each local authority which makes provision for Gaelic-medium education (See Appendix IX). Every Gaelic-medium unit/ school that agreed to participate in the study was sent the assessment tool (See Appendix V). In most cases, the Class Teachers in schools with very small rolls administered the test. Teachers with responsibility for Gaelic Learning Support and Gaelic Development Officers, where available, might assist with the administration of the tests but in the main Class Teachers conducted the tests. Results were collated using SPSS to create frequency distribution of test scores. Although the number of pupils involved is small, it was hoped to provide normative data representative of the total Gaelic-medium education population. This was because there are Gaelic units/schools in urban and rural locations across the country and pupils coming from a variety of socio-economic backgrounds, with varying experiences of length of exposure to the Gaelic language.

6.8 Gathering the Data

In this study, data was gathered in the following way. It was hoped to involve teachers of all Primary 2 and Primary 3 pupils in the immersion stage of Gaelic-medium education as the overall population is quite small. In several cases, teachers work in composite classes of two or three year groups. The screening assessment of phonological skills acquisition in Gaelic was devised and sent to the Head Teacher of each school to be administered by the Class Teacher or Support for Learning Teacher. Response sheets were returned for collation, and the results of each component used to construct normative tables. The participating teachers were invited to complete a

questionnaire concerning the administration of the test and whether the results could facilitate future steps (See Appendix X). Teachers were asked if the test identified areas of phonological weakness. Teachers' views on the instrument itself were sought as well as their understanding of phonological awareness and its role in reading development. Questions were asked about how best to display the results. Further information was gathered by interview from respondents volunteering to be contacted by telephone.

This method of data collection was chosen because it would provide a large coverage of the population under investigation and respondents could complete the questionnaires and interviews in their own time thereby making an efficient use of time. As the majority of schools are in fairly remote areas of Scotland, it was not possible to conduct face-to-face interviews so postal questionnaires followed by telephone interviews were used. One of the advantages of using a questionnaire is that standardised questions can be put which takes out interviewer interference and gets standardised information from the same stimulus. The variety of responses should reflect the variety of participants. There is also the possibility of a high return as hopefully the respondents should see some advantages for them in responding as they themselves have been requesting just such a tool (MacLeod & MacLeod, 2001). In this case, teachers would recognise a fellow professional responding to the need for more specialist support in Gaelic-medium early intervention. Cummins (2000, p. 1) stated that "teachers, as inside participants in educational relationships, have the potential to 'see inside' these relationships". Indeed, he believed that research can be carried out by 'insiders' or 'outsiders'. "At the same time there are issues that are not apparent to those in the middle of a situation but potentially identifiable to those who are somewhat distanced from it." The researcher has worked in Gaelic-medium nursery and primary schools and therefore is familiar with some of the challenges facing teachers in these settings but also has considerable experience in the field of additional support needs in secondary and primary schools.

6.9 Screening Test

Despite the relatively small number of pupils engaged in Gaelic-medium primary education, 2,206 in 2008-2009 (University of Strathclyde, 2009), there are 14 Scottish local councils which cater for Gaelic-medium education. These pupils were educated in 60 Gaelic-medium units/ schools and 58 of the units/ schools were approached to participate in this research. The two remaining schools were invited to take part in the pilot. This study had the potential, therefore, to test up to 699 learners across the country in Primary 2 and Primary 3, who were aged between five years six months and eight years, as the annual August Primary 1 intake includes children from four years six months to five years eleven months. Teachers were asked to record the age and gender of each pupil but schools, pupils and teachers would remain anonymous, only identified by ID number in SPSS files. A copy of the test and sufficient response sheets were sent to every Gaelic unit/school (See Appendices V & VII). As teachers in the pilot stage were asked if they would be willing to record the tests either by audio or video to allow different sets of variables to be made from the test results, and found this to be too difficult to undertake, it was decided not to ask participants to record testing in the main study.

The results from pupils' record sheets were entered into SPSS and the data was used to construct normative tables for each subtest using the centile* equivalents from the raw scores. Results were organised according to age bands of six months and a line graph of the mean scores were obtained. This would show whether the development of phonological awareness is age progressive. The reliability and validity of the screening test was evaluated using several tools from SPSS.

In this research, the response sheets sent to Gaelic-medium schools gathered additional information about pupils' pre-school education and Gaelic-speaking background. This wider study would create a bigger picture of the incidence of additional support needs in Gaelic-medium pupils and thereby contribute to the development of effective support for learning in the Gaelic-medium context. Very little information is known about the numbers of pupils attending Gaelic-medium schools who receive some form of learning support. Information about pupils'

fluency in Gaelic was gathered from the response sheets and was systematically categorised according to theme, for example, attendance at a Gaelic-medium nursery. These different aspects were looked at in relation to any influence on the development of phonological awareness.

Before applying the screening tool to all schools, a pilot test (see Chapter 6.15) was carried out to test its feasibility. This was intended to identify misinterpretations of questions or instructions. Its purpose was to find any ambiguity apparent and enable redrafting before administration of the larger-scale study. Any items which did not yield usable data could be removed or revised.

6.10 Questionnaires

Gaelic-medium primary units or schools are spread throughout Scotland, frequently only one existing in each local authority; therefore it was possible to gather information from a wide range across the country. In order to see if phonological awareness can be measured in Gaelic and to gain an overall picture of how useful a tool this may be for identification of pupils who are suspected of having difficulties developing phonological skills in Gaelic, it was decided to use both quantitative and qualitative research approaches. Data was collected by means of questionnaire and interview. This method of data collection is useful in demographic research when a large amount of data can be gained with relatively small effort. It was a reasonably quick method of gaining information, using scaled responses as well as open questions to supplement each scaled response to gain in-depth information.

A letter of invitation, as well as a consent form (See Appendices XII & XI) was sent to all Head Teachers and Class Teachers explaining the purpose of the study, indicating that official approval from their local authority had been given. Teachers were invited to become involved in the study in the hope that maximum sampling could be accessed. A questionnaire designed for the Class Teachers to fill in after test administration would help to gain a view of what teachers thought of the instrument, how well it measures phonological awareness, how user-friendly it is and how best to present the results. Teachers from all Gaelic-medium units participating

were also asked what other methods of identification they used to test skills of phonological awareness. They were asked if the results would enable the planning of future intervention. Both open and closed questions were used. As the respondents are scattered throughout the mainland and islands of Scotland, a questionnaire was the most feasible method of getting information. Questionnaires were distributed by post to all 58 Gaelic-medium units and schools participating. The two remaining schools had already taken part in the pilot.

Questions were designed to elicit both quantitative and qualitative data. Answers from the questionnaires (See Appendix XIV) were analysed systematically by preparing a grid for all the scaled questions marked *a* in the questionnaire. This was quick and easy to code as only three responses are possible – "yes", "no" or "quite" – and each was given a number in the grid. From this grid, data description was made by counting the responses in different categories, calculating proportions and using statistical analysis with SPSS. These answers were analysed quantitatively though greater quality of information could only be obtained through the additional detail where requested in the open questions, marked *b* in the questionnaire. These were unprompted answers and hence could be quite varied (See Appendix XIV). Grounded theory* is derived from the phenomena it represents and this approach involves gathering and systematically organising initially ill-structured qualitative data (Strauss & Corbin, 1998). The volume of data gathered can provide significant clusters of recurring patterns (Glaser, 1998). Munn and Drever (1990) advised, either creating a framework in advance of pre-set categories which can be closely linked to the research questions, or waiting to derive the framework from the data. As teachers might give more than one answer, in different categories, it was decided to create categories derived from the data. The texts of these questionnaires were all typed into NVivo 8 software program for further analysis and coding. The responses were grouped together according to theme and the data was coded and the content analysed. Bell (1987) believed that it is at this point external moderation is desirable to sort the statements to verify the framework thereby checking the validity and reliability of the coding system. Two colleagues checked that the coding of the

responses was accurate and fell into the correct categories. This coding comparison helped to provide inter-rater reliability and there was a high degree of agreement.

6.11 Interviews

Methods of assessment and identification currently in use were also obtained from telephone interviews with the Gaelic-medium staff involved in carrying out the tests. It had been hoped that 10% of the respondents would volunteer to be contacted but, in fact, 40% of the respondents volunteered to be interviewed. As the researcher is school-based working full-time it would not have been practical to carry out telephone interviews with all staff concerned. Teachers who volunteered to be interviewed by telephone were asked about the efficacy of the screening test and its ability to measure phonological awareness. In all cases, a semi-structured format was used which allowed the interviewees to be led through a series of pre-planned questions (See Appendix XV). These were open-ended questions to give the interviewees the opportunity to give their own views on the assessment tool. Open-ended questions were used in the main to encourage maximum variety of information to be gathered but questions were restricted to dealing with the administration of test, phonological awareness tests, teaching of phonics and differences between fluent Gaelic speakers and learners.

Oppenheim (1966) believed that there are certain principles of interviewer performance in standardised interviews, carried out in person or by telephone, which can provide a useful advantage over postal questionnaires. These include rapport, impression management, language, and question order. The semi-structured telephone interviews took place after the questionnaires had been returned and the tape-recorded interviews were transcribed, categorised and analysed alongside the information gathered from the questionnaires (See Appendix XVI). In the same way as the questionnaires, statements were grouped together by theme using NVivo 8 to analyse the data. This coding was again verified by two colleagues providing inter-rater reliability.

6.12 Validity

Validity of the test design, as well as the questionnaire and interview questions, ensured that they actually measured what they were designed to measure. If another researcher used the same methodology, they should be likely to get the same responses. In order that the research methods were valid, considerable care has been taken with their setting and piloting. Several aspects of this research design ensured that the study focused on areas that would yield appropriate information on phonological awareness that would answer the research questions.

According to Reason and Morfidi (2001, p. 228) "Educational Psychologists have found qualitative research and interview-based approaches valuable in evaluating validity in particular local contexts." The questionnaire data is enhanced by the interview data which is obtained from volunteers amongst the participants. Can the data obtained be used to make significant changes in instruction by making teaching and learning more focused and effective? Here the concern for Gaelic-medium teachers is whether they can depend on the results for making judgements, predictions and generalisations about a child's progress.

The test instrument devised should be nationally usable and acceptable in Gaelic-medium settings but before that could be possible, certain validity checks of the test had to be made to demonstrate that some degree of faith can be placed in the test. Content validity* assesses whether the test measures the content being taught. In order to see if in fact the test measures what it purports to, there must be sure knowledge about the skills being examined. Here, teachers must be familiar with the necessary phonological awareness skills like rhyming, blending, letter/ sound relationships, and so on. They need to know what skills and knowledge are necessary for a child to have before taking the test. The teacher has to be satisfied of the match existing between the curriculum course content and the test content. In this respect the test materials are valid in that they have been developed following research by Ionad Chaluim Chille Ìle (2003). The subtests chosen cover the main areas of phonological awareness that may predict whether a child will experience difficulty with reading or not. The activities match with the curriculum; in other

words, early phonological skills in the Gaelic language used in the immersion stage, where the main Phonics teaching resource is 'Facal is Fuaim'. Further discussion of the vocabulary used for the screening test follows in Chapter 7.4.

A good match means the test can be considered to have adequate content validity. Kavale (1979) suggested a good way for teachers to find out the content validity of a test is to take the test themselves. By doing this they can decide whether the test is testing what is being taught in the classroom. This can also be obtained by consulting a panel of experts in the field to vet the format, content and items of the test. The test items have been checked by five independent individuals for accuracy of language and also vetted to see if each question examines what it purports to, for example, accurate phoneme deletion. The individuals included a Head Teacher, Head of Service, Quality Improvement Officer, Class Teacher and Lecturer in Gaelic. They were asked if the questions were suitable for pupils of this age and if they were based on an appropriate curriculum. The administration instructions have been checked for clarity and ambiguity by the individuals mentioned above; the background questions were adapted following the pilot; the recording procedure was checked for errors. The researcher also tried to confirm the extent to which the questions set in the questionnaire conform to expert opinion of what good questions should be.

The face validity refers to the fact that the test looks as if it should be valid by the fact that the type of items correspond logically to the overall purpose of the test. This is important for motivational reasons as pupils are more likely to cooperate if they sense that this is something familiar and similar to their daily activities. However the fact that face validity exists does not guarantee that the test will be valid in other ways. Evidence of face validity can also be based on vetting by experts. "There is an authoritative consensus that it looks as if it is testing" what it purports to test (Vincent, 1985, p. 44). Although experts can be wrong, there is much to be said for face validation. In this case, one 'expert' was in fact one of the authors of the classroom phonics course "Facal is Fuaim".

It is usually good practice to give an existing test at the same time as a new test under development. When two tests are given close together in time, this can be called concurrent validation. Results should agree even if there are differences in content. This was not possible in this study as there are no existing tests in Gaelic to administer. Vincent (1985) described another means of gaining concurrent validity* by comparing teachers' judgements of pupils' phonological awareness abilities with the test results. There is usually a fair degree of agreement in performance. Vincent thought that there are two ways of regarding such validity. "Is the evidence of a test's capacity to encapsulate professional judgement, or is it just evidence that tests only tell teachers what they know already" (pp. 43). There is probably some truth in the latter. By relating pupils' performance to a norm, in a fully standardised test, teachers can have confidence in the accuracy of results but without this, this could only be done with some accuracy by widely experienced teachers.

Predictive validity* describes the procedure where a substantial period of time is allowed to pass between the test and the measure used to validate it. The results of the first test are followed by some form of measurement at a later date and the basis for the test validity here is that it will predict future performance. This type of validation is common in the development of screening tests but can also be valid if pupils' actual progress is measured later. The current study does not anticipate measuring future progress; therefore the test will not have predictive validity, although this is clearly an area where future research could be useful.

Cronbach (1951) described what an instrument really measures as "construct validity". There are several methods of establishing construct validity* usually by looking at the statistical analysis of relationships between tests or between subtests within a test. As there are no other tests of phonological awareness in Gaelic it is not possible to see how highly this test correlates with others. However, the different skills measured in the subtests would be regarded as having some individual construct validity if they were found not to be associated with each other statistically. These subtests in most similar tests in English usually have close associations between subtest skills. This is analysed SPSS for PC.

6.13 Reliability

The reliability of the information gathered depended on how well the test was constructed, how easy it was to administer and how well the results were evaluated. It would have to produce similar results under constant conditions on all occasions, in other words, a pupil would get the same test score if the test was completed on a different day or if another form of the test was administered. A reliability factor of 1 would indicate that the very same result would be gained on another occasion. Each subtest was correlated using Cronbach's alpha coefficient to ensure that they had satisfactory reliabilities. Items should show high levels of inter-correlation.

The reliability of the information gathered depends on how precisely instructions for administration are followed and how accurately and honestly the questions are answered. Reliability increases if the questions are highly structured and the instructions are quite clear and not ambiguous according to C. Ward (1980). The fact that the researcher is herself a teacher, who has taught in Gaelic-medium education and whose own children have been through Gaelic-medium education, should have encouraged teachers to participate. However, some teachers may have felt that this fact imposed some threat to their own teaching ability. The open questions in the questionnaire may have produced different answers and opinions for a whole range of reasons, for example, different councils may have different policies applicable in their schools.

Test-retest reliability* of the screening tool was possible in this study as the assessment tool could be administered to a ten pupils on two different occasions. The correlation between the two scores was then calculated. High test-retest correlations would indicate a more reliable tool.

6.14 Ethical Issues

Approval was granted by the University of Strathclyde Ethics Committee to which the consent form, information leaflet, questionnaire, interview and instruction details were submitted before the pilot study was undertaken. Permission for the study was

gained initially through a letter to the relevant Head of Service for each Education Authority offering Gaelic-medium education describing exactly what was entailed and who would be involved (See Appendix IX). A return slip to sign was enclosed with an opportunity to name a contact person within the authority. All councils approached gave their permission for schools with Gaelic-medium education to be contacted. Two councils made a request that a separate pro-forma should be filled in prior to approaching schools and permission was granted following their completion. In some cases the contact person was the Quality Improvement Officer with responsibility for Gaelic and in others it was an Education Officer with responsibility for Additional Support Needs.

Once permission was given and it was possible to gauge the number of schools that could participate, two schools had to be chosen for the pilot. This was done with the help of the Head of Education and the Support for Learning Manager of one large authority. The Area Learning Support Team Leader with responsibility for the two schools agreed to oversee the pilot.

Following the pilot in April 2008, once authorisation had been gained to contact schools, the Head Teacher in every Gaelic-medium school/ unit was contacted by telephone in October 2008 and invited to consider taking part in the research. The researcher is aware of problems of confidentiality concerning information relating to pupils and this was discussed with the Head Teachers. In order to maintain their anonymity it was asked that no names would appear on the response sheets. Teachers would identify test papers by number only. This instruction was repeated in the test instructions. Schools would also remain anonymous and be identified by number and colour code to indicate whether a questionnaire or interview had been completed. The assessments would be anonymous and all information gathered would be confidential with no names collated. Teachers were assured that individuals would not be identified although the findings would be made known. Individual responses from the interviews and questionnaires would be kept anonymous. This was explained again in written form in a participant information sheet sent to the school outlining the purpose of the study which also gave contact

details should they be required (See Appendix XIII). Consent forms were sent to all schools with this information sheet to be signed and dated by the respondents (See Appendix XI).

Written permission was not required from the pupils or parents as no external researcher had direct contact with the pupils and the teachers were asked to adopt the screening tool as part of the 'normal' activities the pupils would encounter in day to day classroom experiences, such as rhyming words or saying the sounds of letters on cards. They would ask the pupils questions using the pictures from the screening tool as part of the normal curriculum which frequently involves assessment of what has been taught.

Respondent validation in qualitative research methods can increase the validity of an argument and for that reason it is important to have the support of the research respondents. Teachers were assured of complete anonymity and that all comments would be kept in context. Interviewees were made aware that their responses were being recorded and transcribed in order that they could be accurately represented during analysis but that the research results would be anonymous. Teachers were chosen as participants in this research as they are the ones in the best position to give information on phonological awareness development in the immersion stage of Gaelic-medium education and they are also the ones who could benefit most from this study.

The introduction of personal bias has been avoided by using acceptable methodology and accurate reporting. The opinions stated are those of the respondents alone and the wording of questions in the interviews and questionnaires has been sensitive to any bias. All individuals have been treated equally in their responses and all sides or opinions have been given fair consideration. No incentives have been offered but the respondents and the education councils have been promised written feedback in the form of a report once the study is complete.

6.15 Pilot and issues arising

In order to simulate the research as closely as possible and to get the most useful feedback, a pilot took place in two schools. The test was sent to two island schools for screening pupils in Primary 1 and Primary 2 in April 2008; one small island school and a larger rural one were selected from one authority. These schools are members of the target population and were not used in the main stage of the study. They included a teacher of Gaelic Learning Support who is familiar with similar tests in English and who could offer forthright comments and useful criticism, as well as a Classroom Teacher. Primary 1 and Primary 2 were initially chosen in this study as these are the stages at which screening would take place in English-medium schools.

Teachers were given clear guidelines on test procedures including the timing of the test and notes indicating the exact wording to be used and stating that no assistance was to be given. An audio recording of a sample test giving verbal instructions was sent to schools in the form of a CD to provide a model for accurate administration, to eliminate variations in the test procedure. Teachers had agreed to record the administration tests noting the time taken to administer the screening test and how long it took to complete the questionnaire. However, when the pilot tests were conducted, it had not been possible to record the tests and individual times for testing were not given. Reasons were not given at the time but during the follow-up telephone interviews, teachers stated that although it had been their intention to record testing, finding a suitable time had been an issue as well as the practicalities of arranging recording. Teachers were encouraged to give their general impressions as well as details of any difficulties encountered, and urged to suggest improvements that could be made. If similar points were identified then a redraft of the questionnaire would be made and/or adaptations made to the test taking these into consideration. The questionnaire design was very important as answers would help to identify difficulties in measuring phonological awareness of pupils in the immersion stage of Gaelic-medium education.

Following the pilot, some questions in the questionnaire were modified in order to widen the information gathered. The questions which were revised asked directly if

the test identified areas of phonological weakness and what else teachers thought might help to identify weaknesses. Teachers were also asked if any other tests were used in Gaelic or English. A further question was added to ascertain future planning or intervention that might take place following administration of the test.

All the subtests were administered by teachers in the two schools to a total of 37 pupils using the phonological test and both teachers agreed that it had identified pupils' phonological skills and areas of weakness well. Feedback via the questionnaires suggested that the test would be a helpful tool for planning future intervention. There was a lack of any resource of this kind. Although they had no other formal method of assessing the pupils, the teachers stated that it reinforced their knowledge about the pupils which they had gained through class work. One school found that results from the screening test were very informative and that some children needed a lot of reinforcement with sounds. It had identified some further pupils for whom some intervention would be necessary. Both members of staff considered that Primary 1 pupils were rather young and that the test might be better for Primary 2 and Primary 3 pupils. The length of exposure to Gaelic that Primary 1 pupils had experienced was considered to be too short. It was therefore decided to aim the main study at Primary 2 and primary 3.

One teacher suggested that an additional section simply identifying initial and final phonemes only without the harder task of phoneme deletion would be an improvement. Another teacher indicated that a test like this was long overdue for Gaelic classes. It was alleged that it would be a useful record and could be produced or referred to in consultations to support Class Teachers' opinions. In order to allow the process of subtest development to be as transparent as possible, the following revisions were made. Further examples were added at the start of each subtest in order to familiarise the pupils with the format of each one. The background questions were adapted following the pilot; the number of questions was reduced to ten from fifteen. The study was aimed at teachers of Primary 2 and Primary 3 instead of Primary 1 and Primary 2.

Further information was gathered from the follow-up telephone interviews. The instructions were thought to have covered the administration of the test well and the teachers had welcomed the CD which had included a sample of each test item with a demonstration of teacher and pupil interaction. The test length was adequate for the majority of pupils; however, one teacher felt that a child answering questions incorrectly in a subtest should be allowed to stop before the end. The same teacher wondered if another subtest testing initial and final phoneme recognition might be given to those pupils who had struggled. It was thought that it would be a useful aid when discussing difficulties with parents and could provide good evidence for colleagues. The average scores for four age bands were recorded. The results from the subtests showed a general increase in phonological development across the age bands. The average scores in the third age band were slightly higher because within the smaller number of participants in that age band there were two or three high scores. Teachers agreed that the information gathered would be best displayed in tabular form and indeed one teacher had decided to produce the data in tables before returning them.

This chapter has broadly outlined the methodology used to investigate the best ways of measuring phonological awareness in Gaelic. Following findings from the research into Gaelic phonology (Ionad Chaluim Chille Ìle, 2003), English-medium baseline assessments and previous studies of phonological awareness acquisition in other languages, a linguistic assessment of phonological awareness was devised in Gaelic and which could be administered by teachers in the early stages of Gaelic-medium immersion education. The data collection methods involved distributing the tool to Gaelic-medium schools and units, collecting results from schools and analysing questionnaires and interviews. In order to evaluate the assessment tool, it was necessary to find out if schools found it useful in the early identification of children at risk of reading difficulties. Did it measure the nature of phonological difficulties present so that effective teaching of beginning reading skills within the classroom could take place? Successful intervention comes as a result of school screening which draws attention to a problem before the problem itself becomes apparent according to Cowie (2004). Teachers appraised the screening tool to see if

it would assist them plan specific intervention. The data gathered was used to create a norm referenced test providing a profile using centile equivalents measured against chronological age. This could be applied by Class Teachers throughout Gaelic-medium schools and units. The next chapter will examine the results of the research.

Chapter 7: Presentation of Evidence

7.1 Overview

In order to find out if it is possible to measure phonological awareness in young Gaelic-medium immersion learners, it was necessary to involve both Gaelic-medium pupils and their teachers. To answer the research questions, data was analysed in several steps. First, a review of the content of tests of phonological awareness used in English-speaking schools was made and this resulted in the development of a screening tool of phonological awareness in Gaelic for use in Scottish Gaelic-medium education (See Appendix V). Second, the pupils' screening results from the phonological awareness assessment tool administered by teachers were analysed using SPSS. This information was used to create means, and norms were computed for each subtest. The test of phonological awareness was evaluated statistically to check the reliability and validity. Next, teachers' responses to questions about pupils' knowledge of Gaelic, pre-school nursery attendance and family linguistic background were analysed and observations made on their scores of phonological awareness. Following that, Class Teachers' responses to questionnaires pertaining to the assessment were examined. In the next chapter, there follows a discussion of teachers' views from the transcribed interviews and questionnaire comments.

7.2 Review of identification tools for phonological awareness in use in English-speaking schools

This section focuses on the review of screening assessments in English undertaken during the study and looks briefly at how their construction influenced the creation of the Gaelic screening test. By sampling tests that measure phonological awareness in English, it was apparent that a variety of tools and methods exist. In order to determine what phonological skills could be assessed, an evaluation of some screening assessments looking at their technical adequacy (standardisation, reliability and validity), intended use and limitations and any relevance for similar tools in Gaelic-medium education took place. This evaluation involved gathering information about each test; age range, kind of test – individual or group, stated

objectives, phonological skills tested, limitations and possible relevance in Gaelic-medium education.

Test manuals were examined and checked for technical information, such as standardisation, reliability and validity; journal and book articles critiquing published tests were studied; information on their use and limitations was also gleaned from websites. In this study, a content analysis was made of twenty-two screening tests of early linguistic assessment in English. The tests that were chosen are widely used in English-medium classrooms and the author has had experience of several of them. Reliable and valid assessment tools that match the purpose of assessment are necessary for obtaining appropriate and useful information. Although phonological skills alone are not enough for the development of effective reading skills, there is much evidence that these skills are necessary, as previously discussed (Liberman et al. 1974; Wagner & Torgesen, 1987; Hatcher, Hulme & Ellis, 1994).

A wide variety of subtest was found in these screening tests as can be seen in Table 2. The numbers refer to the number of each screening test examined.

1. Achievement in Literacy and Numeracy – A Baseline Assessment System – The City of Edinburgh Council (2002)
2. Clay's Observation Survey of Early Literacy Achievement - Marie Clay (1993)
3. Comprehensive Test of Phonological Processing (CTOPP) - Wagner, Torgesen and Rashotte (1999)
4. Early Literacy Assessment Project (ELAP) in Irish–Gabrielle Nig Uidhir (2007)
5. East Renfrewshire Council Baseline – Early Literacy Development Profile – Nutbrown (1997)
6. Baseline Assessment - East Renfrewshire Council (2003)
7. Lindamood Auditory Conceptualisation Test (LAC-3) -Lindamood and Lindamood (2004)
8. Lucid Cognitive Profiling System (CoPS) – Horne and Singleton (1997)

9. Performance Indicators in Primary Schools (PIPS) – University of Durham (1994)

10. Phonological Abilities Test (PAT)- Muter, Hulme and Snowling (1997)

11. Phonological Assessment Battery (PHAB)- Frederickson, Frith and Reason (1997)

12. Phonological Awareness and Literacy Screening (PALS) - Invenizzi, Sullivan, Meier and Swank (2006)

13. Phonological Awareness Test PAT-RS - Robertson & Salter (2007)

14. Phonological awareness assessment probes for pre-school children - Gillon (2007)

15. Phonological Awareness Procedure - Gorrie and Parkinson (1991)

16. Preschool and Primary Inventory of Phonological Awareness (PIPA) – Dodd, Crosbie, McIntosh, Teitzel and Ozanne (2003)

17. Queensland University Inventory of Literacy (QUIL) - Dodd, Holm, Oerlemans & McCormick (1996)

18. Sound Linkage – Hatcher (2001

19. Test of Auditory Analysis Skills (TAAS) – Rosner (1979)

20. Test of Phonological Awareness 2nd Edition (Topa-2+) - Torgensen and Bryant (2004)

21. Word Recognition and Phonic Skills 3rd Edition (WRAPS) - Carver and Moseley (1994)

22. Yopp-Singer Test of Phoneme Segmentation- Yopp (1995)

The choice of subtest in these assessment tools showed a high degree of correlation; there is considerable overlap but also some variation. For each test, information is given under the following headings:

A. Age range

B. Kind of test

C. Stated objectives

D. Phonological skills tested

E. General comments, limitations and possible relevance in GM education

Table 2. Analysis of Types of Subtest in Published Screening Tools

Number of test	Phoneme Blending/Segmentation	Phoneme Deletion	Rhyme detection	Letter Knowledge	Speech Rate	Rhyme Production	Word Reading	Print Concepts	Write Vocabulary	Vocab Knowledge	Non-word Reading	Alliteration	Write Name	Syllable Blending	Fluency Test	Polysyllabic repetition	Sound matching	Sound Recognition	Visual/ Auditory Memory	Auditory Discrimination	Visual Sequencing
1		√	√	√		√		√				√	√								
2		√		√			√	√	√									√			
3	√			√						√				√	√		√		√		
4				√			√	√	√									√			
5			√	√		√	√	√					√				√	√			
6		√	√	√		√		√				√	√								
7	√	√												√							
8		√				√						√		√					√	√	√
9			√	√		√	√	√		√			√								
10	√	√	√	√	√	√								√		√					
11		√	√		√						√	√			√						
12		√		√			√	√	√			√	√					√			
13	√	√	√			√					√			√			√				
14	√	√	√	√					√								√	√			
15	√	√				√								√		√					
16	√	√	√	√																	
17	√	√	√						√		√			√							
18	√	√	√											√		√					
19		√												√							
20	√	√															√				
21				√			√							√							
22	√																				
Total	11	15	12	12	2	8	6	7	5	2	3	5	5	10	2	4	4	5	2	1	1
Gaelic Test	√	√	√	√		√								√		√					

Key: √ = Subtest included in test

1. Achievement in Literacy and Numeracy – A Baseline Assessment System –The City of Edinburgh Council (2002)

A. 4-5 years.

B. Individual.

C. To allow teachers to establish level of development in literacy.

D. Alliteration; letter knowledge; rhyme detection; rhyme production; print concepts; read and write name.

E. This assessment is intended for use with pupils at the start of the first term of Primary 1. Pupil's progress can be assessed again at the end of Primary 1. Print concepts, reading and writing in English are involved in this test which would not be appropriate for Gaelic-medium pupils who have not yet started learning English.

2. Clay's Observation Survey of Early Literacy Achievement - Marie Clay (1993)

A. Pre-school – Primary 3.

B. Individual.

C. To help Classroom Teachers become better observers of young children who are learning to read and write and can lead to the identification of children who need additional support.

D. Letter identification; print concepts; reading of 15 very high frequency single words; writing vocabulary and phoneme deletion (hearing and recording sounds in words).

E. A New Zealand publication that has been updated (1993, 2002 and 2006). This test was devised by Clay to include words known by children at the very earliest stage of learning to read. It assesses the literacy knowledge of children in the early stages of their education covering skills in reading and writing. It provides teachers with extensive, practical information which can help to plan strategies for an individual child. It is widely used in Australia, New Zealand, the U.K. and the U.S.A., but it has been criticised for not being standardised. Similar screening tools have been modelled on this assessment through the Early Literacy Assessment Project (ELAP) providing an observation tool in Irish, Spanish, Danish and Slovak. The Irish version is discussed in Test No. 4 and this might be of interest to Gaelic-medium teachers.

3. Comprehensive Test of Phonological Processing (CTOPP) - Wagner, Torgesen and Rashotte (1999)

A. 5- 6 years.

B. Individual.

C. To identify individuals who are significantly below their peers in phonological abilities and who may benefit from intervention activities to enhance their phonological skills; to determine strengths and weaknesses of an individual's developed phonological processes; to document an individual's progress in phonological processing as a consequence of a special intervention programmes.

D. Seven core subtests - phonological awareness (elision, blending words and sound matching), phonological memory (memory for digits, non-word repetition) and rapid processing (rapid colour and object naming, rapid digit and letter naming).

E. An American test designed to extend and improve commercially available tests of phonological coding. The second version of the test has strong psychometric properties and is suitable for individuals of seven to twenty-four years old. Requires use of an audio cassette recorder. A possibility for translation into Gaelic.

4. Early Literacy Assessment Project (ELAP) in Irish – Gabrielle Nig Uidhir (2007)

A. 5:6 – 7:6 years.

B. Individual.

C. To assess literacy achievement in Irish-medium children based on systematic observation tasks. To give the teacher evidence of what the child can do in a whole range of literacy tasks, of where the child is demonstrating confusions or partial understanding, and of areas where the child is incorrect.

D. Hearing and recording sounds in words; reading high frequency words; letter identification; writing; concepts about print.

E. 'Áis Mheasúnaithe sa Luathlitearthacht: Treoir ar Mhúinteoirí' is a redevelopment of Clay's Observation Survey in Irish. Resulting from a five year study this assessment tool can be used in an Irish-medium primary school. For most of the pupils, Irish is their second language as they are being educated in schools outside the Gaeltacht (Irish-speaking areas), which is quite similar to the experience in

Scotland for Gaelic-medium pupils. This test involves a large amount of print which goes beyond the present aim of identifying phonological awareness in Gaelic; however, some elements might be of interest to Gaelic-medium teachers as the phonological make-up of Irish and Gaelic is similar.

5. East Renfrewshire Council Baseline – Early Literacy Development Profile – Nutbrown (1997)

A. 4-5 years.

B. Individual.

C. To screen all Primary 1 pupils to give the Class Teacher useful information on which to base intervention or extension work. To use as a baseline from which to measure accountability of schools and a means by which schools could be compared.

D. Letter sounds; letter knowledge; word reading; repetition of polysyllabic and nonsense words; rhyme detection and production; print concepts; writing letters and name.

E. Crombie (2002) believed that this baseline assessment was not designed to predict individual pupils' likely progress, however it does contain critical factors such as phonological awareness therefore it was included in this review. Its usefulness did not last too long as it was replaced by the following assessment.

6. Baseline Assessment - East Renfrewshire Council (2003)

A. 4-5 years.

B. Individual.

C. To allow teachers to establish levels of development in literacy and provide information for planning future teaching and learning.

D. Phoneme deletion; rhyme detection and production; letter knowledge; print concepts; alliteration; name writing.

E. Provides a baseline against which an individual's progress can be measured. Good visual stimuli. Has an alternative assessment for pupils with EAL but vocabulary items would not be suitable for translation into Gaelic.

7. Lindamood Auditory Conceptualisation Test (LAC-3) -Lindamood and Lindamood (2004)

A. 5-18 years.

B. Individual.

C. To measure the ability to distinguish and conceptualise changes in speech sounds using a visual medium; to measure the cognitive ability to manipulate sounds including the multisyllable level of processing.

D. Coloured blocks are used to visually present and manipulate representations of phonemes and felt pads are used to manipulate the representations of syllables. All words are nonsense words.

E. This American test could be included in a battery of tests to help determine the underlying cause for a learner's difficulties. A norm-referenced assessment. Reliability coefficients are provided for subgroups of the normative sample (for example, African Americans, Hispanic Americans) as well as for the entire normative sample. This type of test could easily be translated into other languages such as Gaelic.

8. Lucid Cognitive Profiling System (CoPS) – Horne and Singleton (1997)

A. 4-8 years.

B. Individual.

C. To help predict dyslexia and identify other learning difficulties in young children.

E. Short term memory; phonological awareness; auditory and colour discrimination; visual and auditory sequential memory; spatial memory; rhyming.

E. Computerised screening system consisting of cartoon games that measure the above skills and displays the results in a graphical profile of the child's cognitive ability using standardised norms. Information is given on how to interpret the profiles. Early versions of the programme were reported to be problematic on some computers and staff felt that pupils were easily distracted if the computer was in a classroom. The results of in-depths case studies raised questions about the predictive ability of CoPS when applied to some individual children. Caution was therefore urged in the application of such computerised 'stand alone' predictors of learning difficulties. However, Fumoto (1998) demonstrated the value of Lucid CoPS when

used as an assessment tool with children from different language backgrounds, including Bengali, French, Gujerati, Japanese, Malayalam, Pushto, Tamil, and Urdu/Punjabi. Manual includes some profiles of pupils whose first language is not English. There could be some relevance for use in Gaelic.

9. Performance Indicators in Primary Schools (PIPS) – University of Durham (1994)

A. 4-7 years.

B. Individual/ Group.

C. To give information about the starting points of an individual entering Primary 1 including personal and social development; to provide schools with data to assist the monitoring, attainment and progress of pupils; to promote school improvement using assessments of early reading, early mathematics and phonological awareness which are processed and results sent out to schools.

D. Handwriting – the child is asked to write his/her name; vocabulary – the child has to identify objects embedded in pictures; ideas about reading – assesses print concepts; phonological awareness – rhymes and repeats; letter identification – mixed upper and lower case letters; word recognition and reading – sentences then comprehension.

E. This is an On-Entry Baseline assessment created for use in schools in England to establish a fixed point from which progress in reading and mathematics could be measured. Expensive. Foundation Stage Profile value-added feedback option no longer available as limitations meant that the feedback was not as extensive or useful as assessment data from the end of Primary 1. Over the first years of the project the assessment was refined as predictive data became available. The Class Teacher carries out the assessment and can gain immediate information as the results are sent to the CEM Centre in Durham to be analysed then the standardised scores are sent to schools. The English version of PIPS has a high test/retest reliability of 0.98. It predicts later success or difficulties well, according to Tymms, Merrell and Jones (2004) and the correlation with reading three years later was about 0.71. It is often used with children whose first language is not English. The instructions state that the administrator must communicate well in the child's language and can translate each item to retain its meaning. In the vocabulary and phonological awareness sections

the questions are asked in the child's own language but the key words are the English words. Used in 25 countries around the world including Australia and New Zealand, PIPS has been translated and adapted for use in France, Thailand, Scotland, the Netherlands, Hong Kong, Germany, Australia and New Zealand though some more work is still needed to improve the assessment items. As yet there are no translations into Welsh or Irish but this could be given consideration alongside Gaelic.

10. Phonological Abilities Test (PAT)- Muter, Hulme and Snowling (1997)

A. 4-7 years.

B. Individual.

C. To screen for the identification of children at risk of reading difficulties; to assess the nature and degree of phonological deficits in children who are struggling with early literacy; to assess the phonological skills that predict early reading progress.

D. Four phonological awareness subtests including rhyme detection, rhyme production, word completion – syllables and phonemes, phoneme deletion – beginning sounds and end sounds; a subtest of speech rate and another subtest of letter knowledge.

E. Norm-referenced test published in the UK. It can also be used as a diagnostic test giving percentile equivalents for each subtest, which can be plotted to profile individual areas of strength and weakness. It includes a subtest of speech rate as an index of speed of access to phonological codes which is, according to the authors, a separate skill from the processes measured by phonological awareness tasks. The criterion-related validity evidence indicates that all the subtests, except word completion, significantly predicted concurrent word reading ability. The best predictors varied according to the age of the child: rhyme detection, phoneme deletion (beginning and end sounds) and letter knowledge were the best predictors for 5 year-olds; rhyme production, phoneme deletion (beginning and end sounds) and letter knowledge were the best predictors for 6 year-olds; rhyme detection, phoneme deletion (beginning and end sounds), speech rate and letter knowledge were the best predictors for 7 year-olds. Test is not suitable for direct translation as vocabulary items contain many three-letter words which would not occur in Gaelic, however, the presentation of each subtest would lend itself to Gaelic.

11. Phonological Assessment Battery (PHAB)- Frederickson, Frith and Reason (1997)

A. 6-14 years.

B. Individual.

C. To identify phonologically based specific learning difficulties; to assess phonological processing skills that are important for progress in reading and to provide a profile that will support the planning of teaching.

D. Non-word reading, rhyme, alliteration, naming speed (picture and digit), (semantic, rhyme and alliteration), and the detection and solution of spoonerisms*.

E. Standardised test devised as a result of research at the University of London in 1992. It is an intended for those whose literacy progress is causing concern. Rhyme, rhyme fluency and non-word reading had the strongest predictive validity. The naming speed test would be unfair for Gaelic-medium pupils who still have limited vocabulary unless items were previously known.

12. Phonological Awareness and Literacy Screening (PALS) - Invenizzi, Sullivan, Meier and Swank (2006)

A. 3 levels – 6-8 years; 5 years; 4 years.

B. Individual.

C. To identify pupils who are performing below the expected level in literacy fundamentals and are at risk of reading difficulties and delays.

D. Alphabet knowledge, knowledge of letter sounds, phoneme-grapheme correspondences, word concepts, word recognition, rhyme awareness, nursery rhyme awareness, name writing, beginning sound production.

E. PALS is the state-provided screening test for Virginia's Early Intervention Reading Initiative, USA which can be used as a diagnostic tool to help provide teachers with explicit information to assist teaching. It purports to have good reliability and construct, concurrent and predictive validity. No evidence of use in other languages but many of the subtests might be suitable for Gaelic, except the nursery rhyme subtest.

13. Phonological Awareness Test PAT-RS - Robertson & Salter (2007)

A. 5- 9:11 years.

B. Individual.

C. To assess phonological awareness and phonemic reading ability; to diagnose deficits in phonological awareness; to assess decoding skills and knowledge of sound-symbol correspondences to help planning.

D. Eight subtests assessing rhyming – discrimination and production; segmentation – sentences, syllables and phonemes; isolation – identification of final, initial and medial phonemes; deletion – compounds/ syllables and phonemes; substitution – isolate and change a phoneme; blending – syllables and phonemes; graphemes – sound/ symbol correspondence; decoding - pseudo-word reading. There is an optional subtest of invented spelling.

E. Norm-referenced with separate scores for each subtest as well as composite score for whole test. Computerised scoring software available. Originally published in 1997 when non-English speaking children were excluded from the norming sample. Latest version includes reliability coefficients for Hispanic Americans, African Americans, Euro-Americans as well as for those with language and learning disabilities. Test-retest coefficients exceed .90. Large sample of 1,582 subjects. Subtests might be suitable for Gaelic once vocabulary items had been checked.

 14. Phonological awareness assessment probes for pre-school children - Gillon (2007)

A. 5-7 years.

B. Individual.

C. To monitor early phonological awareness development and provide baseline data from which to measure the success of specific interventions in children with language delay.

D. Rhyme detection, phoneme matching; letter names, initial and final phoneme deletion, phoneme blending and segmentation.

E. These probes were designed in New Zealand to investigate the effectiveness of integrated phonological awareness intervention for children with apraxia of speech but can be used equally well with children having no childhood apraxia. This test is

an oral assessment except for the letter knowledge. Test is not suitable for direct translation as vocabulary items contain many three-letter words which would not occur in Gaelic however, the presentation of each subtest would lend itself to Gaelic.

15. Phonological Awareness Procedure - Gorrie and Parkinson (1991)

A. 6 years - adult.

B. Individual.

C. Test designed for people with learning difficulties, dyslexia or speech and language difficulties.

D. 19 subtests of phonological awareness skills divided into syllabic, intra-syllabic and phonemic segmentation including non-word repetition.

E. Hesketh (1996) described this assessment as a tool developed by a practising teacher and a speech and language therapist in England using action research as a response to a need for a specific screening device. It allows pupils to experience a level of success in an area of difficulty. No normative data or validity details given in the instruction manual. A large number of these subtests involve reading words in English and the complex syllable structure of Gaelic discussed in Chapter 3.7 might make this test unsuitable for Gaelic-medium education.

16. Preschool and Primary Inventory of Phonological Awareness (PIPA) – Dodd, Crosbie, McIntosh, Teitzel and Ozanne (2003)

A. 4 - 6:11 years.

B. Individual.

C. To measure a broad range of skills in young children and help identify children at risk of reading failure.

D. Rhyme awareness, syllable segmentation, alliteration, phoneme isolation, phoneme segmentation and letter knowledge.

E. Created in USA, this test can be administered by teachers and appears to be easy and quick to administer. There are item analysis tables, tables of norms and percentile ranges for 6 month intervals. Sample involved 450 children. Internal consistency of items ranged from .82 for rhyme awareness to .96 for letter-sound knowledge. This test might be suitable if vocabulary items were not too complex.

17. Queensland University Inventory of Literacy (QUIL) - Dodd, Holm, Oerlemans & McCormick (1996)

A. 6-12 years.

B. Individual.

C. To measure school-age children's phonological awareness ability at three levels.

D. Syllable identification and segmentation; rhyme recognition; spoonerism test; phoneme detection, segmentation and deletion; non-word reading and spelling.

E. Australian test standardised for pupils from Primary 1 to Primary 7 and has good item analysis and internal consistency according to Gillon (2004). Spoonerisms in Gaelic might not be known by learners of the language.

18. Sound Linkage – Hatcher (2001)

A. 7 years.

B. Individual.

C. To identify reading-delayed children; to improve children's sensitivity to the sound structure of words; to identify pupils who could benefit from training activities to enhance their phonological awareness.

D. Seven subtests of phoneme deletion, segmentation and transposition, syllable segmentation and blending, rhyme detection and spoonerisms.

E. Originally published in 1994, the package comprises a criterion-referenced test of phonological awareness as well as a structured programme of phonological awareness training containing nine sections which are graded in the order of difficulty, from word and syllable identification to phoneme manipulation tasks. Contains normative data. Cards and photocopiable sheets are included. It was designed for children who had fallen behind with their reading and is also successful with children of all ages including dyslexic children and children with moderate learning difficulties. Again, spoonerisms would be difficult for Gaelic immersion pupils.

19. Test of Auditory Analysis Skills (TAAS) – Rosner (1979)

A. 4 years onwards.

B. Individual.

C. To determine the child's ability to identify separate sounds in spoken words and the sequencing of those sounds. It does this by having the students delete sounds and to voice what is left after the deletion.

D. Phonological awareness - oral word analysis skills with 13 single word phonetic deletion items.

E. Brief test to identify pupils who would benefit from auditory skills training. Limited to phoneme deletion tasks. This test might be of use in the Gaelic-medium classroom with suitable vocabulary.

20. Test of Phonological Awareness 2nd Edition (Topa-2+) - Torgensen and Bryant (2004)

A. 5-8 years.

B. Group.

C. To determine if difficulties in early reading of pupils in Primary 1 and 2 are associated with delays in development of phonological awareness; to identify pupils who could benefit from training activities to enhance their phonological awareness before learning to read.

D. Isolation of individual phonemes in spoken words; understanding relationship between letters and phonemes in English.

E. A measure of children's phonological awareness. There is evidence of internal consistency reliability, test-retest reliability and inter-scorer reliability. There is also content validity, criterion-prediction validity and construct-identification validity. 2004 version supersedes original TOPA written in 1994 by the same authors. Using suitable vocabulary, this test might be of some use to Gaelic teachers.

21. Word Recognition and Phonic Skills 3rd Edition (WRAPS) - Carver and Moseley (1994)

A. 4:6 - 9 years.

B. Group.

C. To test word recognition in early readers; also provides a profile of strengths and weaknesses in phonics.

D. Letter knowledge and word-building skills using syllables.

E. A standardised diagnostic assessment that can be administered to a class in a single period and scored quickly. It claims that almost all children will have some success in identifying some features of spoken high-frequency and irregular words in printed form in English. It has no information on use with EAL pupils or translated versions. This test goes beyond phonological awareness to print concepts and would therefore be of limited use in the Gaelic-medium classroom.

22. Yopp-Singer Test of Phoneme Segmentation- Yopp (1995)

A. 4-5 year.

B. Individual.

C. To measure a child's ability to hear and articulate each individual sound of a spoken word sequentially.

D. Phoneme segmentation of 22 one-syllable words.

E. This is a quick test based on feature analysis and word familiarity that claims to be a valid measure of phonemic awareness and have significant predictive validity. The test is based on research carried out by Yopp and Singer at California State University. It originally appeared in an article about the validity and reliability of phonemic awareness tests in 1988 and was later published in 1995. It is a strictly oral test and although it is designed to be used with English-speaking children, the format is relatively easy to transfer to other languages like Gaelic.

7.3 Factors influencing what to test

The aim of this project was to determine how to measure the phonological awareness of pupils in the immersion stage of Gaelic-medium education and to examine the difficulties that arise in creating an assessment tool. The 22 tests reviewed

demonstrated the wide variety of measures available when identifying pupils' early phonological awareness skills in English. It is clear from reading test manuals and reviews of assessment tools that there is a wide variety of subtests that are used to assess pupils' early literacy skills ranging from sound recognition and letter knowledge to syllable and phoneme blending. As this study was focussing purely on phonological awareness, the ability to segment words orally, subtests such as word reading, writing and visual sequencing were not considered for inclusion. It is acknowledged that fuller assessments including such subtests are useful when determining reading achievement, such as the synthetic phonics study by Johnston and Watson (1999) discussed in Chapter 3.6.

In 1957, Dale and Reichert (cited in Johnston & Watson, 2005) believed that vocabulary knowledge was found to be the best single predictor of school success, so Johnston and Watson used the British Picture Vocabulary Scale to test receptive vocabulary knowledge in Primary 1. In this test, children were read out a word and shown four pictures. Their task was to point to the picture that represented the spoken word and they were given standardised scores for age, with a mean of 100. Letter knowledge was pre- and post-tested in Primary 1. Each child was asked to give the name and the sound for every lower case letter. Percentage correct performance in producing names and sounds was calculated for each child. The Clay 'Ready to Read' Word Test was used in Primary 1 pre- and post-test to gauge emergent reading. Each child was asked to read 15 very high frequency single words. This test was devised by Clay to include words known by children at the very earliest stage of learning to read. Percentage correct performance was calculated for each child. A test of Phoneme Segmentation to test the children's ability to segment words into phonemes, the Yopp-Singer Test was used pre- and post-test in Primary 1. Generating rhyme was assessed when the children were asked to generate rhyming words pre- and post-test in Primary 1. For each word pupils were asked to give rhymes. The mean percentage number of rhymes given by each child was calculated; non-words were accepted as rhymes. A variety of reading tests were administered to both group and individuals throughout the seven-year study including: The British Ability Scales Word Reading Test; Wide Range Achievement Test; The Primary

Reading Test; Group Reading Test and Non-word reading tests. To measure reading comprehension, cloze procedures were used. The Schonell Spelling Test and the spelling section of the Wide Range Achievement Test were also used.

Rathvon (2004) presented ten cognitive-linguistic and literacy-related skills that have been demonstrated to predict reading ability and are associated with reading problems: Phonological processing; rapid naming; orthographic processing; oral language; print concepts; alphabet knowledge; single word reading; oral reading in context; reading comprehension; and written language including spelling. Some assessment tools that have been reviewed involve several components whereas some measure fewer. Early studies in the United States (Bond and Dykstra, 1967 & Chall, 1967, cited in Muter, 1996) into possible predictors of reading success and failure revealed that letter knowledge and phonological awareness (specifically the ability to discriminate phonemes orally) were the best predictors of beginning reading. Tasks that assess children's phonological abilities are the chief candidates for attempting to predict progress and problems in the early stages of learning to read according to Crombie, 2002; Fawcett and Nicholson, 1997; Hatcher, 2000; Reid, 2003; and Snowling, 1995. Phonological skills can be measured in a number of ways. The form any assessment takes is inextricably bound up with its purpose. The balance of the curriculum in the early stages of Gaelic-medium immersion education is weighted towards basic oral skills as the majority of pupils are new to the language, therefore an assessment should be similarly aligned.

Adams (1990) listed five main levels of task considered to represent the sound structure of English, the first level involving knowledge of nursery rhymes and the sense of patterns in rhymes and songs. The second level refers to the ability to identify the odd word out changing initial, medial or final sounds. The third level proposed by Adams is the ability to blend sounds together to make a word. The fourth level involves phoneme manipulation tasks where individual phonemes are isolated and deleted or replaced. The final level includes phoneme segmentation tasks where individual phonemes are separated. These phonological processing skills are the most important ones that successfully predict reading success or failure

in English as previously discussed. However, as has been mentioned already, rhyming in Gaelic is not straightforward and may not be a particularly strong indicator of underlying phonological difficulties. Despite this, patterns and repetitive rhythms do appear to influence language acquisition in many languages including English, and as the majority of Gaelic-medium pupils will have heard English from a young age, it was decided to include subtests involving rhyme in the assessment. Briggs (1997) maintained that the use of rhyme usually accompanied by actions or music shows that phonological awareness is present in children before they begin to read. Non-words as well as actual Gaelic words are acceptable. In the present study, many words were chosen because of their similarities in sound in both English and Gaelic to try to eliminate any culture bias, for example, *ball, tanc, cat, clas, loch.* Chapter 4.7 described a similar test construction using no culture-specific vocabulary.

7.4 Test Construction - Choice and Development of Subtests

Before constructing an assessment tool, several things have to be taken into consideration. The following questions adapted from Cohen and Wollack (n. d.) require to be addressed in order to ensure the validity, reliability and fairness of the assessment tool:

- Is the type of assessment appropriate or could another assessment method be used?
- Does the tool assess any abilities that are irrelevant?
- Does each assessment component assess appropriate abilities?
- How well does the assessment match the targeted curricular content?
- Will the assessment produce the kind of information needed?
- Have the test items been evaluated?
- What costs (including time) will be incurred when using the assessment?
- Is the scoring scale appropriate and of high quality?
- Has the test been vetted?
- Are there any anticipated problems?

Is the type of assessment appropriate or could another assessment method be used?

The discussion of different phonological processing abilities makes it clear that it is useful to include a range of different tasks when assessing children suspected of having literacy difficulties. Tests of phonological awareness contain items that require skills such as rhyming, sound blending, syllable and phoneme segmentation, and sound manipulation. Phonological awareness instruments should include most of these skills. A review of 22 assessments of phonological awareness in English revealed that there were no fewer than twenty-one different tasks or subtests as described in Chapter 7.2. The most common tasks were: phoneme deletion, letter knowledge, phoneme segmentation/ blending, rhyme detection, syllable blending, rhyme production, print concepts and word reading. In Chapter 4.8, the suitability of different phonological skills in screening assessments was discussed. Test items were chosen that were neither too easy nor too hard for pupils as the majority of pupils should have some measure of success according to Rathvon (2004). This fact was taken into consideration during the test construction.

Does the tool assess any abilities that are irrelevant?

Some subtests were not chosen as they might have been seen as testing more than phonological awareness. For example, vocabulary knowledge could vary considerably according to a child's level of fluency and writing vocabulary introduces the aspect of orthography. These subtests would have introduced the variable of language knowledge which was not in itself something to be assessed, as pupils could have had a variety of pre-school experiences with the Gaelic language. Their expressive and receptive vocabularies may be considerably different in the early stages of immersion education. Hall (2002) believed that it is virtually impossible to design a verbal test that is appropriate for all bilingual pupils that is free of bias; however, in order to reduce any bias in creating the assessment tool, the following measures were taken.

The words selected for the screening test are drawn from the list of the 400 common words encountered in the first four series of the Storyworlds reading scheme used in

Gaelic-medium classes created by Ionad Chaluim Chille Ìle (2003). The Phonics Research Team at Ionad Chaluim Chille Ìle considered these reading books to be an ideal source of material for compiling words lists for pupils in the immersion stages of Gaelic-medium education. The subtests chosen in the Gaelic assessment cover the main areas of phonological awareness that may predict whether a child will experience difficulty with reading or not, according to expert opinion of what elements should be tested (Crombie, 2002; Fawcett & Nicholson, 1997; Muter, 2003; Reid, 2003). Subtests were derived from experimental tasks used in the research literature to assess phonological processing. The test is designed to exclude irrelevant abilities so that the results are not influenced by them. The skills tested are appropriate for the age of Primary 2 and Primary 3 pupils and relevant for the level of language used by these pupils.

Does each assessment component assess appropriate abilities?

The composition of the screening test has been determined by the researcher through the analysis of phonological screening tests in English, in the absence of similar tests in Gaelic, Welsh or Irish. None of the items are graded internally but the first six subtests are ordered according to task difficulty. The three tasks that children can complete before acquiring literacy skills, according to Hatcher (2000), come first in the test – Rhyme, Syllable and Phoneme Blending. The harder tasks of Phoneme Deletion occur near the end of the test as they usually develop as children are beginning early reading skills. The last two subtests of Polysyllabic Repetition and Letter Knowledge are discrete tests of skills which develop alongside the other skills. (See Appendix V) The following subtests are included as they each determine different aspects of phonological awareness:

1. Rhyme Detection

This is a skill best considered within early phoneme level awareness as it requires the ability to discriminate single phonemes within a word. Bryant, Bradley, Maclean and Crossland (1989) argued that rhyme is the first stage in the development of phonological awareness skills and they demonstrated this in a study of children aged 3-6 years who were assessed on their ability to recite five nursery rhymes. In the

rhyme detection task, results indicated that knowledge of nursery rhymes at age three correlated strongly with performance on rhyme detection at age four and with phoneme detection at age five and six. They concluded that rhyme detection performance strongly predicted reading and spelling performance as nursery rhyme acquisition enhanced phonological awareness which in turn is linked to reading and spelling success.

Implicit knowledge of rhyme and alliteration is required to recite nursery rhymes and produce rhyme and alliteration, and conscious explicit knowledge of rhyme is the ability to detect the odd one out in a list, for example, *ceann, grian, peann.* An English example of this type of activity could be *big, pig, cow.* This form of judgement task is dependent on 'input processing skills' according to Vance (2005). In this subtest the pupil selects the correct picture, from a choice of three, which rhymes with a pictured target word. All the pictures were drawn in colour by a pupil in a Gaelic-medium school. Young children's attention can be captured by using attractive visual picture cues to supplement an auditory stimulus according to Gillon and McNeill (2007). As four words can be too much for the auditory memory of young children (Crombie, 1997), only three words are presented at once. Each word is spoken by the teacher first, so both visual and auditory information is given. M. Smith (2005) stated that when the words are spoken for the child, there is no requirement for reference to be made to internal phonological representations, making this the easiest subtest. Before the eight test items a demonstration example is given (See Appendix V, p.14).

2. Rhyme Production

Rhyme production or generation is a more challenging skill than rhyme detection but a good knowledge of nursery rhymes can be beneficial in this type of task. It requires output processing skills to generate a string of rhyming words. Previous comments in Chapter 4.10 acknowledge that it is very hard for the concept of rhyme to be taught explicitly in the Gaelic-medium classroom as there are few nursery rhymes in Gaelic and those that exist often contain obscure vocabulary. In this subtest the pupil must give as many real words or non-words as possible that rhyme

with a given word within thirty seconds. An example is given before the task starts. Two different stimulus words are given (See Appendix V, p 32). Usually responses have the same rime unit as the target word therefore more pseudo-words are expected because onset and rime does not work in Gaelic, as previously discussed. Vance, Stackhouse and Wells (1994) described their study of children with speech and literacy difficulties who showed persisting difficulties with rhyme production. These tasks can prove useful when trying to identify underlying speech processing problems.

3. Syllable Blending

Syllable completion or blending is the inverse of syllable segmentation. Children struggling with literacy often find the division of spoken words into syllables difficult to grasp, according to Snowling and Stackhouse (1996). The number of syllables in a word is equal to the number of beats. Each syllable can be represented by a single letter or a group of letters but each one contains a vowel or a vowel digraph, for example, *e* = one syllable, *bothan* = two syllables, *toilichte* = three syllables, and so on. Goswami and Bryant (1990) argued that words can be segmented at three different levels, the first of which is into syllables. Difficulties blending syllables make it hard to decode words when reading but can give substantial difficulty when trying to spell polysyllabic words later on. The words selected have two to three syllables. This is an oral exercise and no visual stimuli is given. Nine test items are given with an example to start off with (See Appendix V, p 33).

4. Phoneme Blending

This test measures a child's ability to orally blend a sequence of isolated sounds in a word and say the word as a whole. No visual clues are shown and each sound is produced separately at one-second intervals. The first level of phoneme blending involves blending phonemes to form single-syllable words without picture aids (e.g. *c-a-t*). This activity is modelled first in the example given by the teacher. A child needs to understand that a sound is a phoneme or one distinct sound and that when these sounds blend together they form words. Early readers must know how to blend

phonemes if they are to decode new words.   In order that working memory capacity is not overloaded the use of target words with a maximum of three or four phonemes is recommended by Gillon (2004). Nine test items are given with an example to start off with (See Appendix V, p 34).

5/ 6. Initial and Final Phoneme Deletion

Phoneme awareness can be measured with tasks involving phoneme deletion or elision (Gillon, 2004). Indeed, it is the measures of phoneme awareness that have proved to be the best predictors of later reading development according to Muter (2003) and Muter, Hulme and Snowling (1997). In the phoneme deletion tasks, pupils are asked to say what happens to words when the first (initial) or last (final) sound is taken off. After demonstration and practice, the pupils indicate how the word would sound when the target sound is removed from each word. Tasks can be made easier by using picture cards so that words do not have to be remembered while identifying the individual phonemes. They include minor differences of difficulty by using single consonants or consonant clusters before the vowel, for example, easy ones as in *mòr* (or in English - *bus, cow*) and harder ones like *snàmh* (or in English - *brush, blue*). Eight test items are given using a picture for each with an example to start off with (See Appendix V, p 35).

7. Polysyllabic Repetition

This subtest provides useful information about the proficiency of a child's speech processing skills by polysyllabic repetition. Articulating polysyllabic words can indicate some of a child's phonological abilities. Mann and Foy (2007) found that speech production correlated with measures of early literacy. Inspired by the literature of the Kahn-Lewis Phonological Analysis (1986), they found that children who had early deficits in speech production had difficulties with phonological awareness. Children who showed errors in repeating sounds early on showed weaknesses in other skills that draw on phonological representations, especially rhyme awareness. Peeters, Verhoeven, de Moor and van Balkam (2009) examined the effect speech production had on reading development in children with/without cerebral palsy. They found that the problems children with speech impairments have

may lie in the retrieval of whole-word phonology and the access and retrieval of phonological representations.

Previous studies of poor readers have linked patterns of misarticulations with phonological awareness (Dodd, 1995). Holm, Farrier and Dodd (2008) found that children with consistent atypical speech errors had poor phonological awareness and were at greater risk of literacy difficulties. Snowling (1981) found groups of poor readers who presented difficulties with multi-syllabic repetition. She found that if a child shows difficulties in spoken language development, then reading difficulties often ensue. Catts et al. (1999) argued that most poor readers have some deficits in oral language skills. These prevent them from compensating for their deficits in phonological processing and word recognition. Similarly, Stackhouse and Wells (1993) demonstrated how a psycholinguistic approach, based on the theoretical view of speech processing, can be applied to a pupil's phonological difficulties. A breakdown can occur at the input stage when the speech signal is decoded, at the internal representation stage when a word is recognised phonologically and stored in the memory or at the output stage when a word is encoded and articulated through speech. Holm et al. (2008) reported that the children with delayed or disordered speech had inconsistent phonological assembly skills and were at increased risk of struggling to develop spelling.

Polysyllabic repetition also involves auditory memory. Auditory analysis deals with the child's ability to listen and process auditory stimuli. When auditory problems are not remediated, a child will be unable to cope with normal classroom instructions. Inability to follow oral directions will cause him/her to be unable to keep up with his/her peers. Sometimes the lack of auditory memory will cause him/her to feel lost and confused. Poor auditory sequencing (ordering) and auditory discrimination (comparing and contrasting) will hamper his/her ability to learn phonetic sounds that will ultimately affect the ability to read well. Sometimes a child can have difficulty repeating multi-syllabic words like *ambulance* or *butterfly* (Ott, 1997) and Blacock (1982, as cited in Ott, 1997) demonstrated that dyslexics specifically are prone to have misarticulations in their speech. Some children may jumble up letters or

transpose them to create spoonerisms. In order to assess a child's speech production ability, this subtest required pupils to repeat four real words of four or five syllables. Words were presented one by one and no previous vocabulary knowledge was necessary for this task (See Appendix V, p 71).

8. Letter/Sound Recognition

A test of letter/ sound knowledge is included. The purpose of this measure is to find out what letters the child can identify either by name or by sound. Letter knowledge can be an indicator of how easily and quickly the letter identities have been learned and Muter (1996) believed that this is an important element in early identification screening. Johnston, Anderson and Holligan (1996) argued that preschool children may require letter knowledge to trigger phoneme awareness and Adams (1990) supposed that letter knowledge was a strong predictor of later reading ability. Burgess and Lonigan (1998) believed there is a bi-directional relationship between letter knowledge and early phoneme awareness development and Ehri, Nunes, Stahl and Willows (2001) went further to suggest that intervention combining phoneme awareness and letter knowledge is more effective than phoneme awareness alone.

As previously discussed, the Gaelic language has complex orthography and phonology so it was decided to use an expanded character set to acknowledge the different phonetic properties of long vowels as well as the letter clusters known as digraphs. Some other European alphabets also treat digraphs as if they were single letters, as in Dutch *sj*, Italian *sc*, and Polish *sz*. The sound [ɲ], the palatal nasal, is represented in French and Italian spelling by the digraph *gn*, but in Portuguese by *nh* and in Catalan and various African languages by *ny*. In Welsh, two-letter combinations are used to represent single sounds in its 28-character alphabet. This Gaelic assessment uses a 31-character set of letters following recommendation in the Phonic Report by Ionad Chaluim Chille Ìle (2003, p. 35): 'Phonics requires a straightforward relationship between sound and symbol to be established.' If the digraphs (two-letter combinations that make a single sound) are expanded to full-letter form, the single sounds they represent become transparent. This is important for early readers where the onset recognition is crucial to word decoding. Alphabetic

knowledge can be assessed by asking the child to name or sound out the lower case letters presented on a card, out of alphabetic order. Correct responses can be given through name, phonic label, or a word beginning with that letter (See Appendix V, p. 72 and cards).

How well does the assessment match the targeted content?

Many of the activities are not substantially different from those normally used in the classroom. Because, for many of the pupils in Gaelic-medium education, this is their second language, teachers will be choosing a good variety of language games, songs, structured play and will be following closely the language skills of the pupils. The Immersion Policy of Sir John Maxwell Primary Gaelic Unit (1996) stated that a variety of techniques should be used including songs and rhymes involving actions and repetition, special language games, role play and drama. These methods are also described in the Gaelic-medium Education Language Guidelines (Highland Regional Council, 1992) and in the Teachers' Manual of '*Facal agus Fuaim'* (Stòrlann Nàiseanta na Gàidhlig, 2005).

With the exception of the words used in the polysyllabic repetition subtest, nursery teachers will have already introduced the vocabulary items chosen, following the suggestions of Ionad Chaluim Chille Ìle (2003). Words were chosen that would be familiar to the pupils, for example, *loch, grian, bòrd*. The very small number of pupils who have not benefited from Gaelic-medium nursery will have had exposure to the vocabulary throughout Primary 1. No variation of test items was made for L1 and L2 learners as the decision regarding fluency could be quite subjective for Classroom Teachers to make. Many children may come from Gaelic-speaking homes but could actually have a limited amount of oral Gaelic.

Will the assessment produce the kind of information needed?

The purpose of any test will determine the type of test to be constructed. The purpose of this assessment is to screen pupils for the identification of phonological deficits. It should assess the nature and degree of difficulties with which children who are struggling with early literacy have in the belief that early identification will

allow intervention to take place, thereby reducing future literacy difficulties. Results will indicate the level of phonological skills acquired and teachers should be able to see if they are age appropriate.

Despite the fact that Gaelic is very different in vocabulary, grammar and structure form English, if the evidence produced comes from the vocabulary, structure and grammar of Gaelic itself then it should be acceptable as a resource for Gaelic-medium teachers, as indicated in the responses from teachers in the interviews and questionnaires discussed in Chapter 8. Teachers need to find out whether their pupils have grasped the fundamental areas of phonological awareness, as without these, problems may arise later on. It is preferable to have firm evidence to back up a "hunch" that a teacher may have had through normal classroom teaching. Gaelic-medium teachers have access to very few diagnostic assessments and this assessment tool could provide useful information for them which will help them to identify areas of weakness. In order to identify difficulties at an early stage it would be unreasonable to expect pupils to read or decode words they did not know.

Have the test items been evaluated?

A poor quality assessment will not tell teachers enough to allow them to make meaningful decisions about future teaching and learning. To ensure that the quality of any assessment is as good as it can be, the test items must be evaluated. Not only do subtests have to be decided upon but test items have to be selected too. These are not simply words chosen at random but must be selected systematically. The test items must be fair and not discriminate against a particular group of pupils. Here both learners and fluent speakers will be screened equally. The technical validity and reliability of the screening tool will be assessed by analysing the test results statistically, and are described in Chapter 7.7 and 7.8. It is acknowledged that contrived assessments can be less successful than those that relate to real-life, however, it is hoped that the vocabulary and drawings chosen will be relevant and meaningful to pupils. Care was taken to use current pedagogy in Gaelic-medium education. A checklist by Ory (1985) for evaluating test items gave several suggestions that were useful in this research. For example, multiple choice items can

provide highly reliable test scores and have scoring efficiency and accuracy. They can cover a wide sampling of content and have a reduced guessing factor when compared with True/ False items. Multiple choice items can measure a pupil's attainment or ability without the need for rater judgement. For each item there is only one correct answer and the required response is limited to a single word or phoneme.

What costs (including time) will be incurred when using the assessment?

This assessment is complete in that no monetary cost is involved to the teachers themselves, or to the schools involved. The folder containing all the test items, letter cards, instructions and record sheets are provided by the researcher. Future use of the test would involve duplication of one single record sheet per pupil. The time involved in each test is estimated at ten to fifteen minutes per pupil, based on the piloting feedback. Baseline assessment in most primary schools usually takes between fifteen and twenty minutes per pupil therefore this test would appear to be a reasonable burden on a teacher's instructional time. The resulting information should be worth the effort and time involved.

Is the scoring scale appropriate and of high quality?

The design of the test includes a description for each subtest and each component is clearly labelled. An instruction sheet provides simple tuition in Gaelic for teachers on each subtest (See Appendix VI). The correct answer for each item is written in coloured ink on the teachers' copy of the test beside every question. An analytic marking scheme is used giving one mark for each correct answer and 0 if incorrect (See Appendix VII). The scoring procedures do not vary across the different tasks. Demonstration tasks appear in the rhyme detection, rhyme production, syllable and phoneme blending and phoneme deletion subtests. The administration instructions have been checked for clarity and ambiguity by the individuals mentioned below. This ensures that the test is administered uniformly. The recording procedure was checked for errors by asking a teacher to take the test. Interpretation of scores will be discussed later as will the suggested course of action recommended. It is intended

to provide guidelines for staff on the interpretation and use of results as not all teachers will be familiar with the significance of certain results.

Has the test been vetted?

The test items have been checked by five independent individuals for accuracy of language and also vetted to see if each question examines what it purports to, for example, accurate phoneme deletion. The individuals included a Head Teacher, Head of Service, Quality Improvement Officer, Class Teacher and Lecturer in Gaelic. One of the individuals produced the main phonics scheme used in Gaelic-medium primary schools. They were asked if the questions were suitable for pupils of this age and if they were based on an appropriate curriculum. Answers indicated that the screening test did fit in with the curriculum and that the questions were suitable for the intended target group.

Are there any anticipated problems?

Before the tests were sent out to schools the following potential difficulties were anticipated:- extended time given during administration; inconsistent scoring; assistance given; repetition; coaching; different conditions from school to school; retesting; different testers; incomplete tests; specific items in a subset could be explicitly taught; noise distractions; unfamiliar tester; child should be tested by a tester with whom the child is comfortable for example, the child's teacher; lack of preparation/training for administration; translation of words into English; in a small class may overhear others being assessed first giving an advantage; colour blindness; pictures/words may be unfamiliar; variation in local pronunciation of words; test stimuli held too far away from pupil. All of these factors are beyond the researcher's control, however, it is hoped that the professionalism of teaching colleagues together with the verbal and written instructions on administration will help to minimise these difficulties. The difficulties were followed up in the questionnaire and interview questions which are discussed in Chapter 7.4 and in the 2 final chapters.

The Gaelic Screening Test, when compared with all the twenty-two tests reviewed in Section 7.2, would probably have most in common with the Phonological Abilities

Test (PAT), the Lindamood Auditory Conceptualisation Test (LAC-3), the Phonological Awareness Procedure, the Preschool and Primary Inventory of Phonological Awareness (PIPA), the Test of Auditory Analysis Skills (TAAS), Test of Phonological Awareness 2nd Edition (Topa-2+), the Yopp-Singer Test of Phoneme Segmentation and the Sound Linkage test. None of these tests involve print concepts and many of them were produced to identify pupils who might be having difficulties with literacy or who might be at risk of reading difficulties.

The closest test to the Gaelic Screening Test in terms of language and stage is 'Áis Mheasúnaithe sa Luathlitearthacht: Treoir ar Mhúinteoirí', the Irish version of Clay's Observation Survey which resulted from The Early Literacy Assessment Project and was published in 2007. This test involves a large amount of print which goes beyond the present aim of identifying phonological awareness in Gaelic; however, it might be of interest to Gaelic-medium teachers as the phonological awareness of Irish and Gaelic is similar. It should also be noted that, in the same way that Gaelic is a second language for most Gaelic-medium pupils, for most of the Irish-medium pupils, Irish is their second language as they are being educated in schools outside the Gaeltacht (Irish-speaking areas) (Parsons & Lyddy, 2009). There was no test of phonological awareness in Welsh but The Wales Dyslexia Screening Test (University of Wales, 2003) involves a test of phonological awareness along with motor skills, numeracy, visual memory, naming speed, and sound discrimination amongst others subtests.

The finalised test was prepared for distribution to schools. The subtests were arranged in order according to the progression of phonological awareness acquisition described in Chapter 3.3. Each item was printed on card and the images drawn and inserted into the appropriate subtest. These were all put together in a loose-leaf ring binder which was adapted to fold back on itself and tied so that it could stand upright. Letter cards were made for the letter/sound recognition subtest and were enclosed at the back of the folder. A CD giving sample test items for each subtest was recorded and attached to the inside front cover. Sixty such folders were made, one for each

Gaelic-medium school or unit. Instructions and record sheets were devised and included with the test.

7.4 Results of Screening Test

The report is concerned with children attending Gaelic-medium education in the early immersion phase of their primary education. In the academic year 2008/09, 2206 pupils attended Gaelic-medium primary education constituting 0.58% of the school population in Scotland (University of Strathclyde, 2009). The distribution was uneven as only fourteen out of thirty-two Scottish local councils offered Gaelic-medium education. Of those councils, several had only one unit or school delivering Gaelic-medium education, whereas two councils had twenty or more units or schools. Of the fourteen councils approached in 2008, all granted permission for their schools or schools housing Gaelic units to be contacted. All sixty schools agreed to participate in the research; two of the schools took part in the pilot in April 2008. In the end, eleven councils were involved with a total of forty-eight schools participating including the two pilot schools, amounting to 80% participation as shown in Table 3. Five schools returned the resource unused, while seven schools did not respond once the materials had been sent out, despite four reminders, and these seven schools held onto the resource materials. School responses ranged from the results of one pupil to results of forty-eight pupils.

Table 3. Geographical distribution of the sample

Local Council	Number of Pupils	Percentage
Perth & Kinross	2	0.54
Angus	3	0.82
Inverclyde	8	2.20
Aberdeen City	10	2.71
South Lanarkshire	10	2.71
East Ayrshire	10	2.71
Stirling Council	14	3.8
East Dunbartonshire	17	4.62
Argyll & Bute	35	9.51
Glasgow City	48	13.04
Western Isles	102	27.72
Highland	109	29.62
Total	368	100

One difficulty encountered was that considerable time was spent in contacting the potential teacher respondents by telephone and e-mail, a task which lasted for several weeks. This was evidently due to the respondents' work commitments or temporary absence from work. At the onset, all schools were very willing to assist when contacted, although, as stated above twelve schools did not participate once the materials had been sent out. Five schools had staffing issues including teachers on maternity leave and long-term absence. In some cases, acquisition of contacts in schools took considerably longer and the period of test administration could not be restricted to the original plan of a six-week window from the October school holiday 2008 to the end of November 2008. When results failed to be returned on time, it was decided to contact the respondents, initially by e-mail, then by telephone. All the results that were returned by the end of April 2009 were examined.

The screening tool was administered by teachers to pupils in Primary 2 and Primary 3. These pupils were aged between five and a half years and eight years and the total

potential population of Gaelic-medium pupils in Primary 2 and Primary 3 in the session 2008-2009 numbered 674. The number of pupils about whom information was gathered totals 368 representing 55% of the available population. Including pupils involved in the pilot, this figure increases to 405 representing 60% of the total population available. Information was gathered about a total of 193 pupils in Primary 2, and 175 pupils in Primary 3. As this screening tool was aimed at pupils in Primary 2 and Primary 3, the age bands from 5:07 up to 8:00 years would include all pupils at those stages. There were a different number of children in each age band and the distribution was normal. The numbers in each age band are shown in Table 4.

Table 4. Age bands and number of pupils tested

Age Bands	Number of Pupils	Percentage
5:00 – 5:06	5	1.36
5:07 – 6:00	49	13.32
6:01 – 6:06	69	18.75
6:07 – 7:00	119	32.34
7:01 – 7:06	66	17.93
7:07 – 8:00	52	14.13
8:01 – 8:06	8	2.17
TOTAL	368 pupils	100

Once the tests had been administered and returned, the researcher then began to analyse the results from 368 pupils. Using SPSS Version 17, the resultant data was examined for reliability as well as validity. The software package was then used to create tables of norms. Information on thirteen pupils was not considered to be particularly valid as only five pupils would be in the lowest age band (5:01 – 5:06 years), and only eight pupils in the top age band (8:01 – 8:06 years); however, the information on the whole sample was calculated and it was interesting to note the general trend continued at both ends of the age scale indicating that the test items are age progressive. Age progression in a test indicates that the test is well-constructed and is assessing skills that are developmental according to Robertson & Salter (2007)

7.5 Scoring comments

Many of the Gaelic-medium units are quite small, often with composite classes and few Support for Learning Teachers. Therefore in order to provide an assessment tool that would be accessible to all Gaelic-medium units/ schools, it was necessary to create something that could be easily used by Classroom Teachers in the main. It had to be assumed that some teachers had limited previous experience of administering such an assessment, as such assessments in English-medium schools are often carried out by Educational Psychologists, Speech Therapists, and Support for Learning Teachers. As previously stated, there are very few Gaelic-speaking Educational Psychologists. It is with this in mind that the screening tool was devised, knowing that Classroom Teachers themselves would probably be administering the screening test in Gaelic units/ schools. Written instructions for administration were in Gaelic and had to be very clear and straight-forward. These were accompanied by a demonstration CD of the researcher administering each subtest, thereby supplying an example of how each subset was to be presented. This study also attempted to gain information about pupils' previous exposure to Gaelic by asking questions relating to their pre-school experience and family links to Gaelic as Reid (2003) believes that assessment should involve gathering information about a child's background and previous experiences.

Five schools had to be contacted after the results were received as the pupils' ages had been omitted from the record forms. As each record form had been given a number by the Class Teacher, this was relatively easy to obtain. Teachers had been asked not to write pupils' names on the record sheets, however, three schools had added first names to the record forms and these were erased on receipt. Most teachers wrote down the exact words produced by pupils in the Rhyme Production section, including non-words, however, two teachers only wrote the number of words given. It was perhaps interesting to note that these two teachers gave very high scores for Rhyme Production, typically 7 or 10 where the mean scores for the whole sample was 2.3. Many words given by pupils in the Rhyme Production subtest were non-words or English words, for example, 'zoo'. On several occasions, teachers wrote

down the exact error made in the subtests. On two record sheets, teachers had made notes such as 'problems with phoneme blending but otherwise not bad'.

One school appeared to have completed the test by administering it to all eight pupils on six different dates, subtest by subtest. No reason was given for this as no questionnaire was submitted from that school. One teacher commented that the pupils in her school would have pronounced one word differently - *peann*. This school is in an area where the pronunciation of several Gaelic words is known to be different from the rest of Scotland. Three record sheets had comments to accompany low scores indicating that the pupil had a speech and language problem or autism.

7.6 Subtest results

The scores for all the subtests were typed into SPSS Version 17 and subsequently grouped in the six month age bands given above. The composite scores for the whole test of phonological awareness are shown in Figure 4.

Figure 4. Total test scores of phonological awareness

Total Phonological Awareness

Mean =67.54
Std. Dev. =12.007
N =368
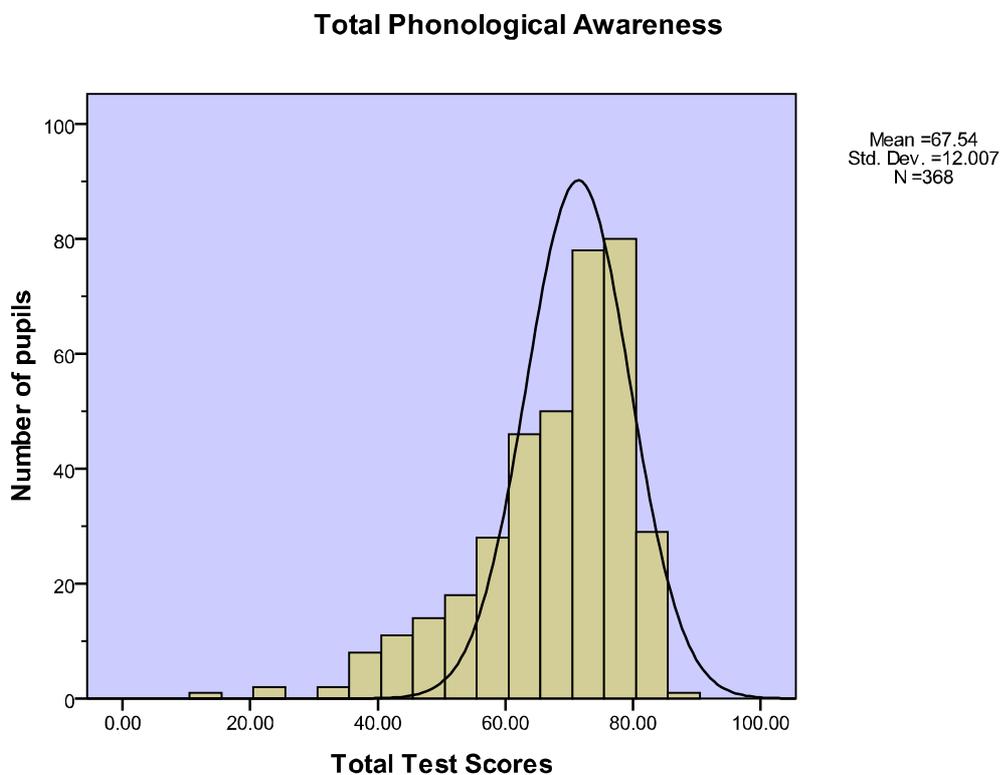
The mean total scores of phonological awareness for pupils in all age bands are shown in Figure 5. The results suggest that phonological awareness measured using Gaelic language increases as age increases, that is to say it is age progressive. Even though there were few children tested at the lower and upper age groups it is still possible to see the impact of age on phonological awareness as the linear trend continues at either end.

Figure 5. Mean total phonological awareness scores for full sample of children by age band (n=368)
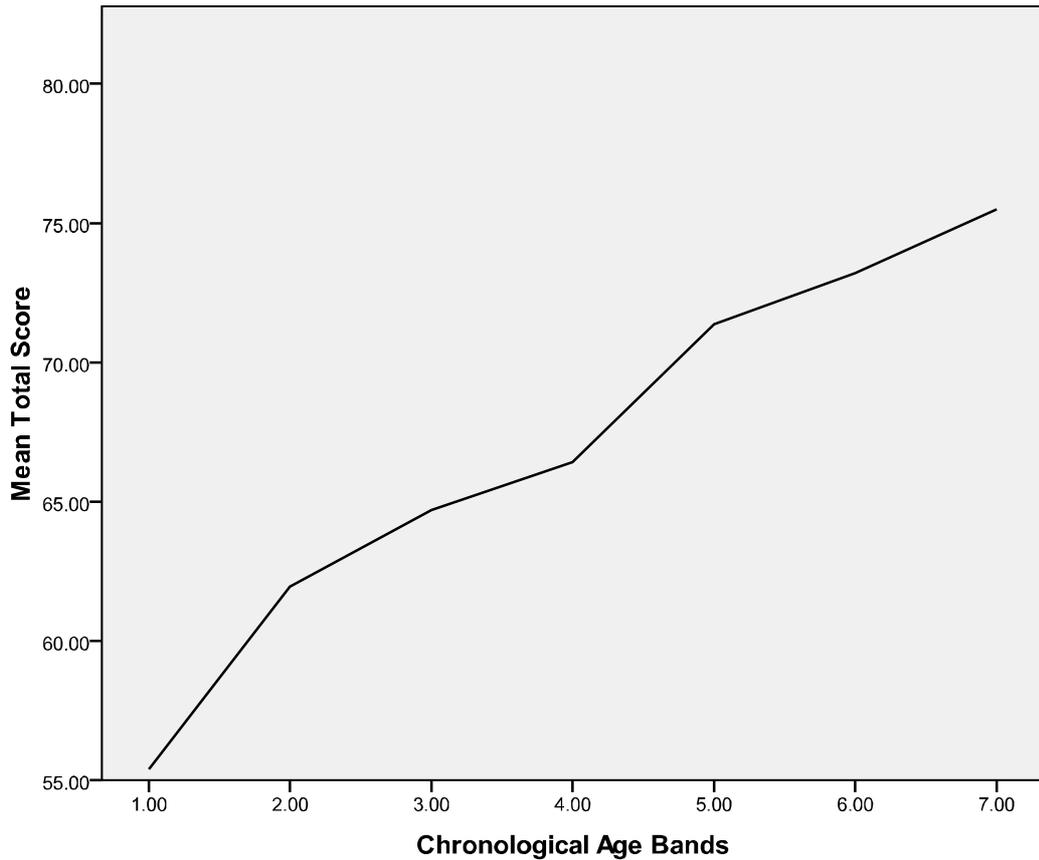
Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

The following figures 6-13 display the graphs for the mean total scores for each individual subtest. The results are discussed further in this chapter by means of constructing centile charts and consideration of gender in Chapter 7.10, Gaelic fluency and length of time in Gaelic-medium education in Chapter 7.11.

Figure 6. Mean total rhyming scores for full sample of children by age band (n=368)
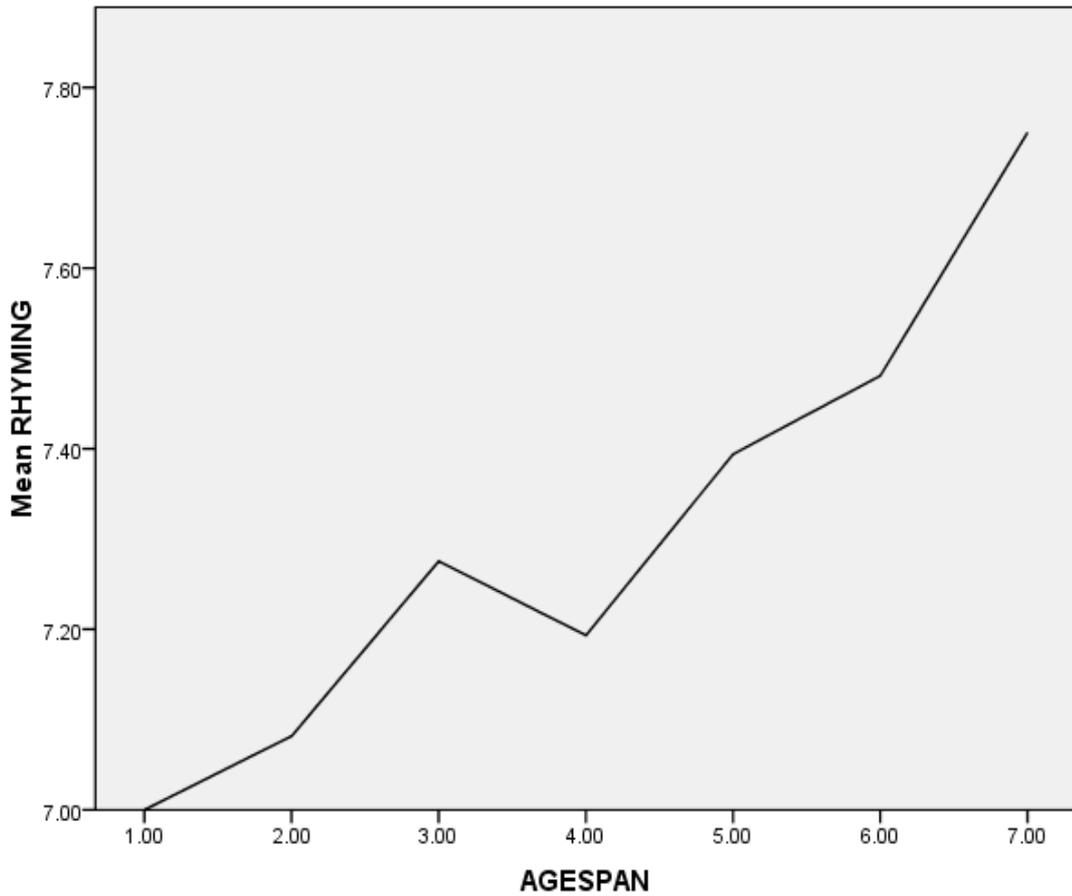
Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

Figure 7.Mean total rhyme production scores for full sample of children by age band (n=368)
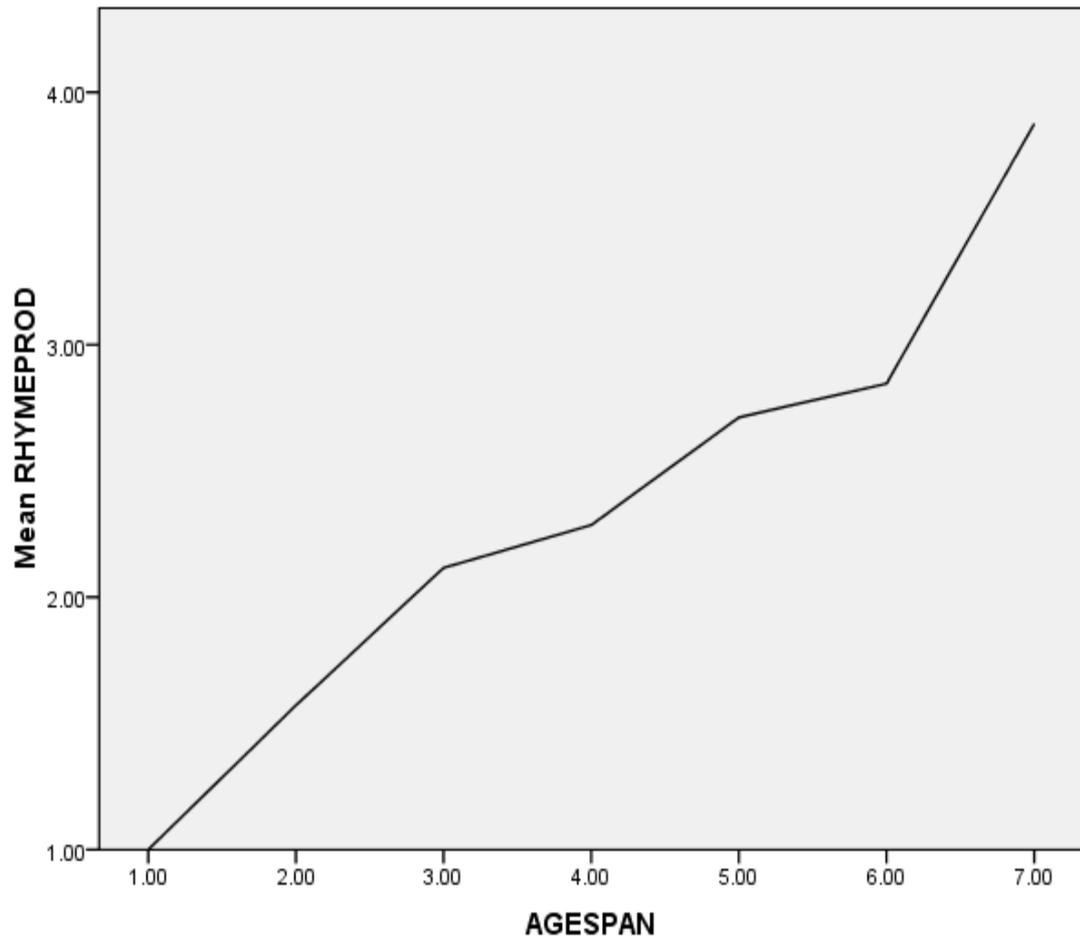
Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

Figure 8. Mean total syllable blending scores for full sample of children by age band (n=368)
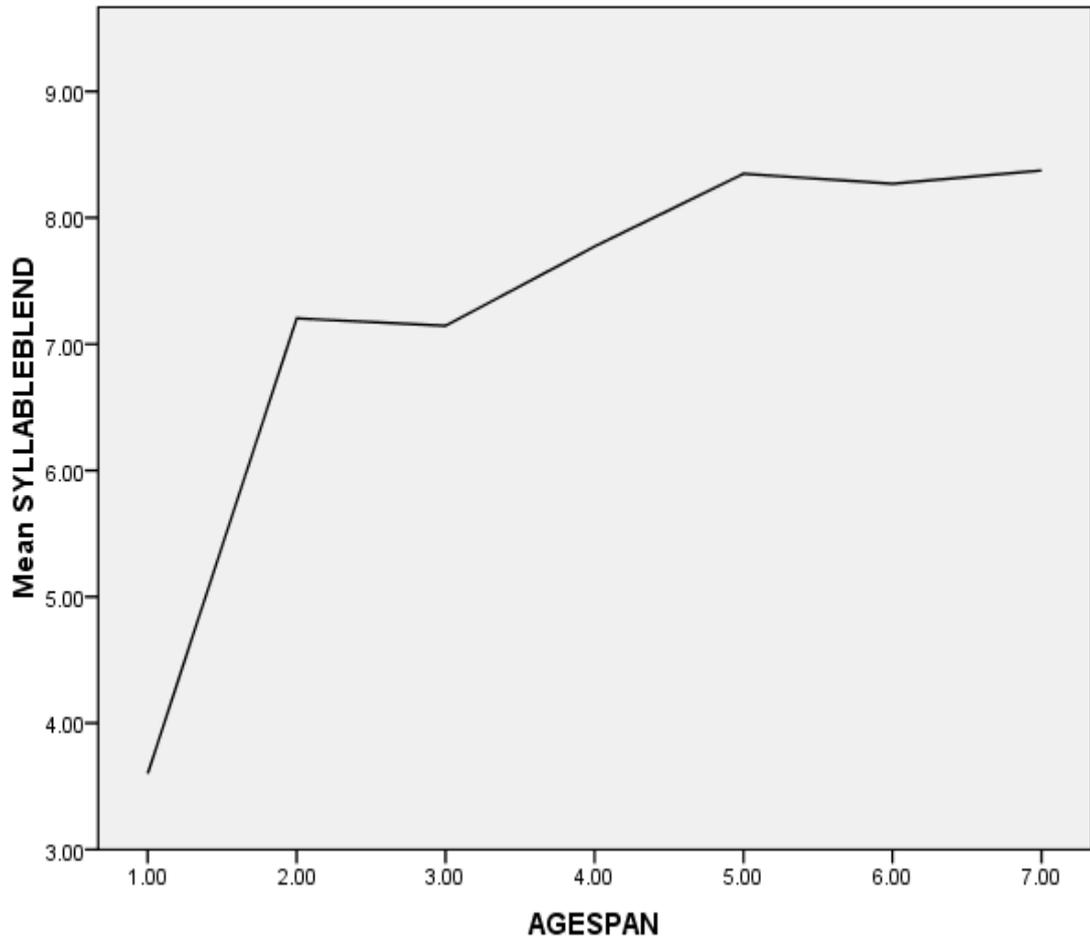
Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

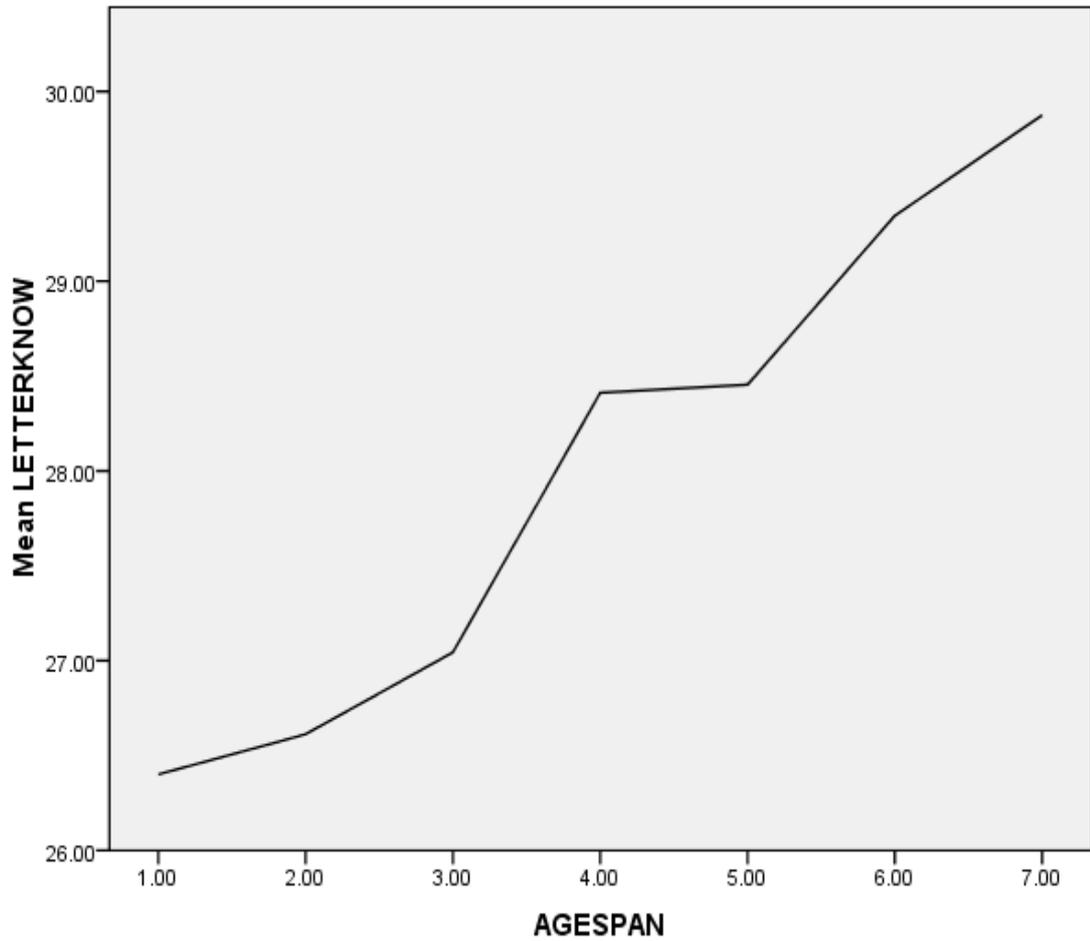**Figure 9. Mean total phoneme blending scores for full sample of children by age band (n=368)**
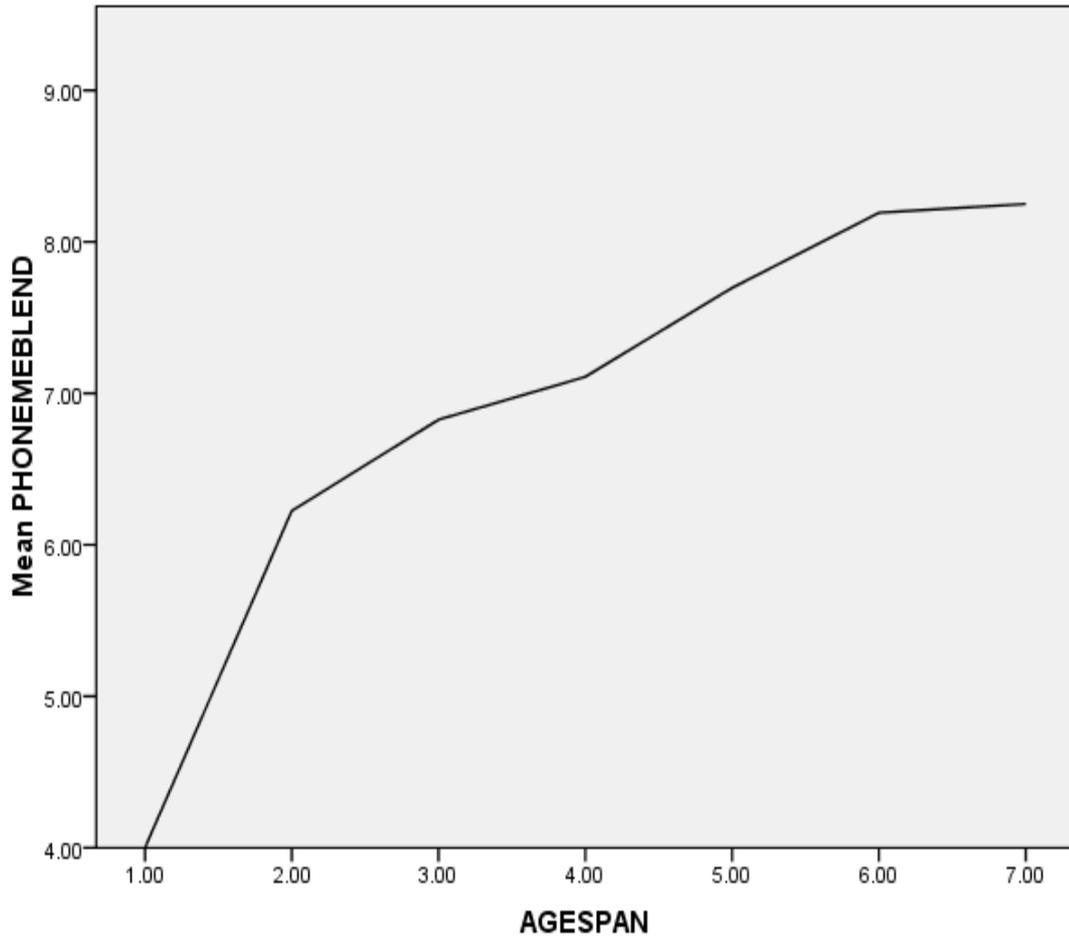
Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

Figure 10. Mean total initial phoneme deletion scores for full sample of children by age band (n=368)
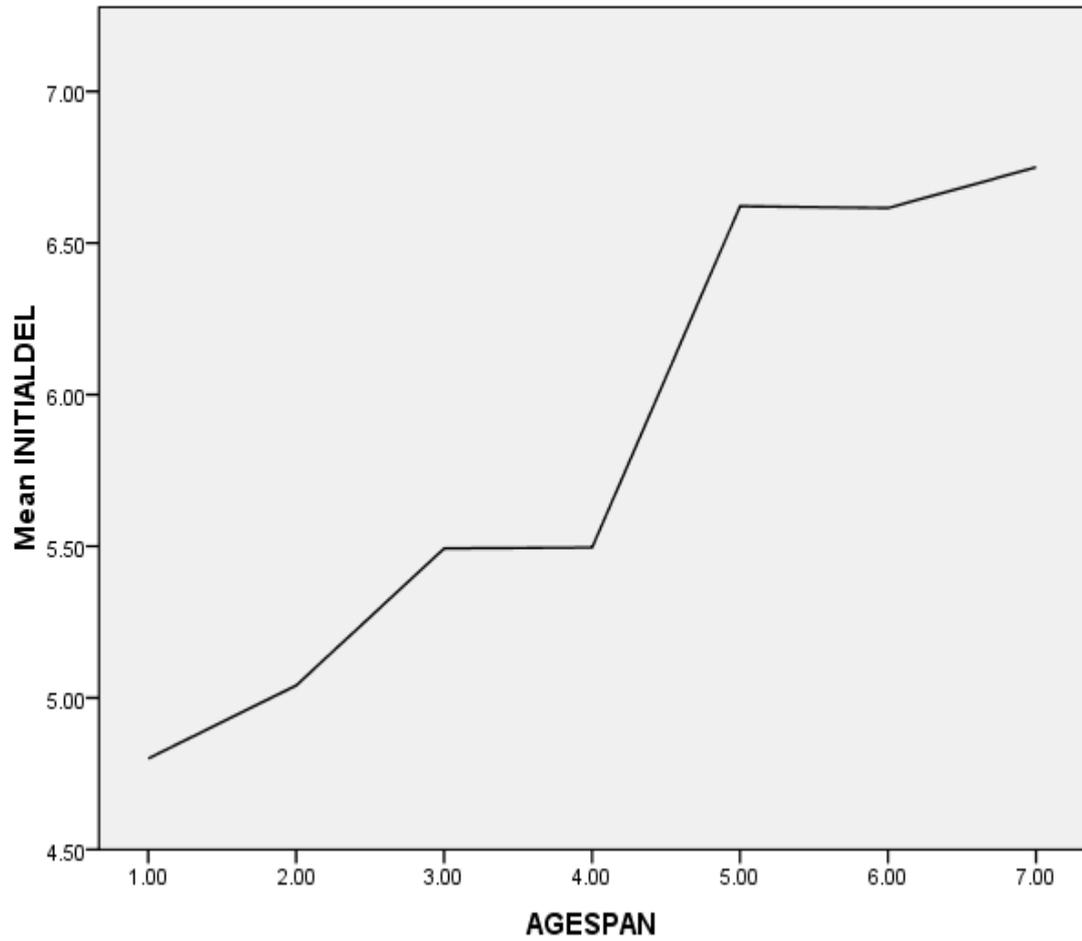
Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

Figure 11. Mean total final phoneme deletion scores for full sample of children by age band (n=368)
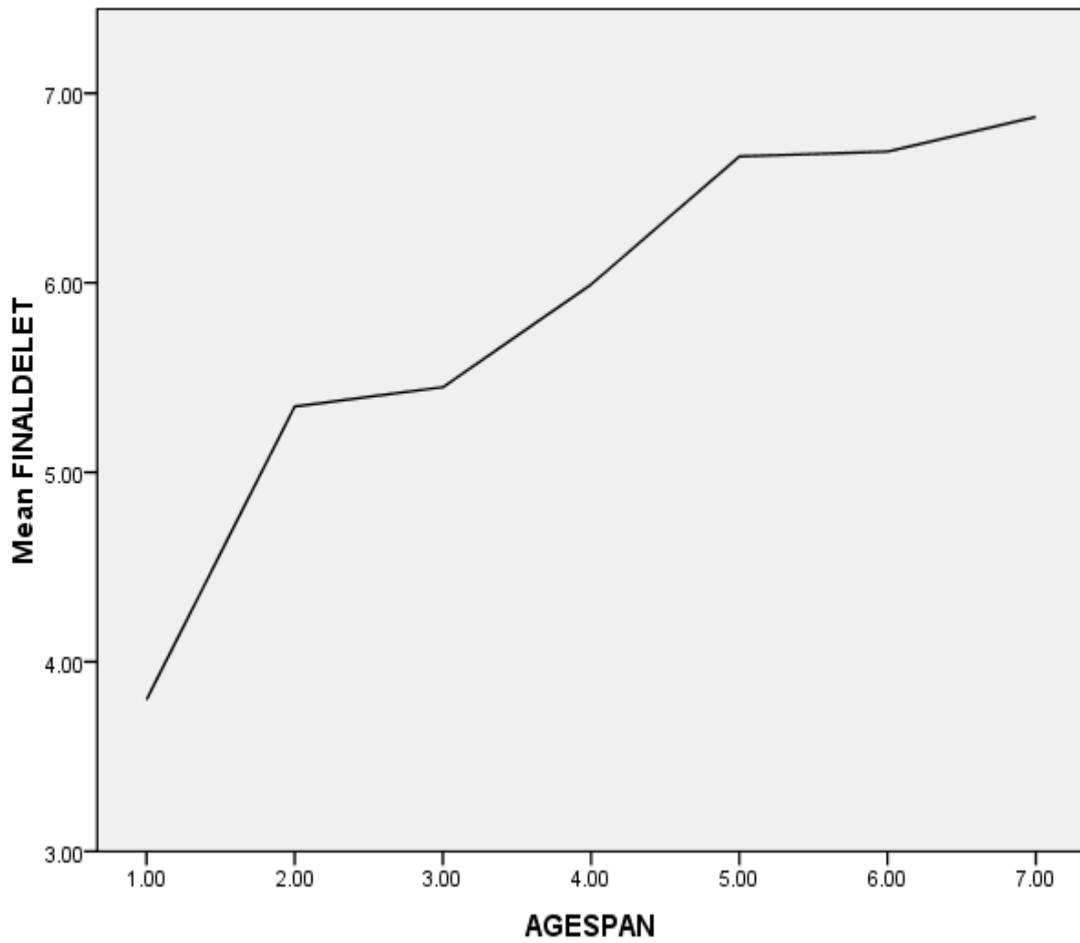
Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

Figure 12. Mean total polysyllabic repetition scores for full sample of children by age band (n=368)
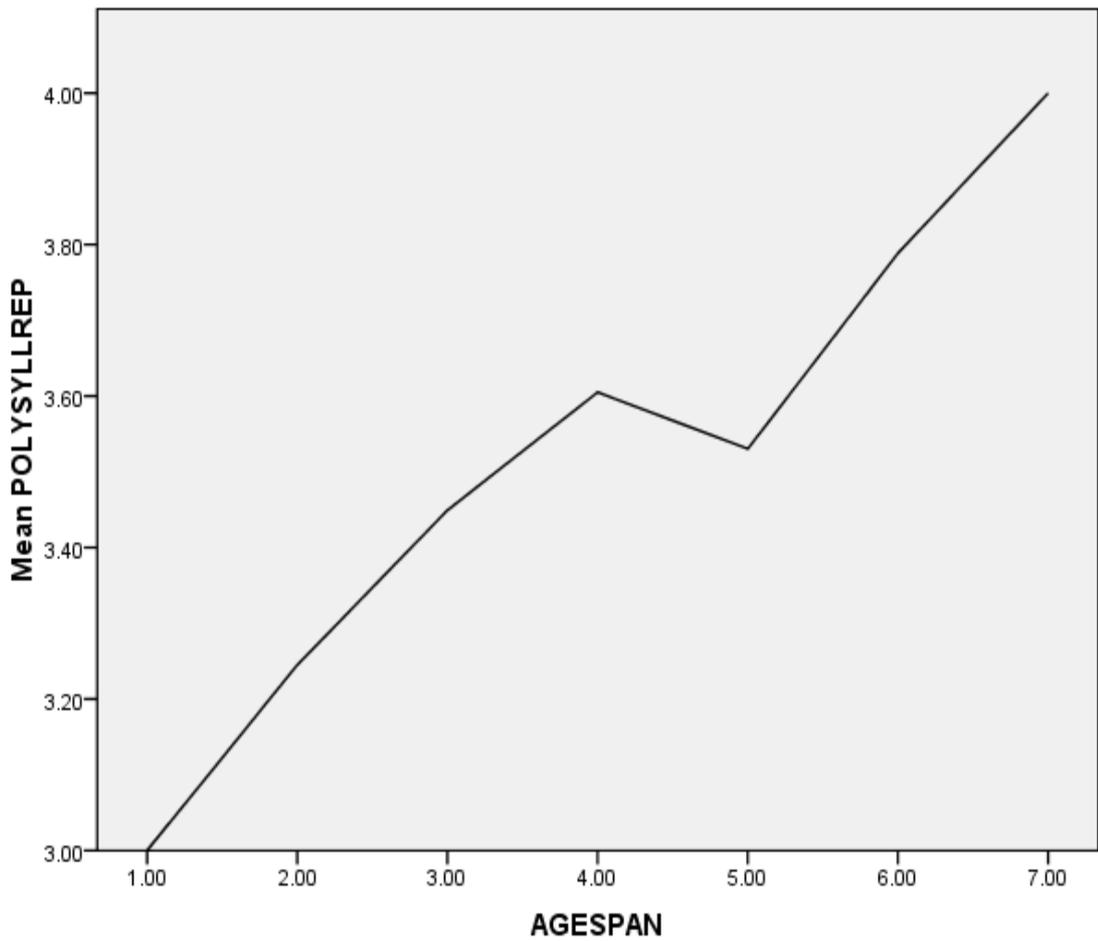
Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

Figure 13. Mean total letter knowledge scores for full sample of children by age band (n=368)

Age bands in years and months	
1	5:00-5:06
2	5:07-6:00
3	6:01-6:06
4	6:07-7:00
5	7:1-7:06
6	7:07-8:00
7	8:01-8:06

Each subtest had different numbers of items: rhyme detection, final phoneme deletion and initial phoneme deletion all had 8 items; phoneme blending and syllable blending each had 9 items; polysyllabic repetition had 4 items and letter knowledge had 31 items. The mean item scores for each subtest are displayed in Table 5 where the mean for both rhyming subtest items are the highest and the mean for both phoneme deletion subtest items are the lowest. This would concur with other studies of phonological awareness development where individual skills within phonological processing follow a graded progression (Hatcher, 2000; Gillon, 2004).

Table 5. Mean item scores for full sample of children (n=368)

Rhyme Detection	Rhyme Production	Syllable Blending	Phoneme Blending	Initial Phoneme Deletion	Final Phoneme Deletion	Polysyllabic Repetition	Letter Knowledge
0.91	1.15	0.85	0.79	0.72	0.74	0.88	0.89

A centile chart can be used to decide whether a child's phonological awareness falls within the normal or average range of development or whether the child has some weaknesses. Without knowing the child's age it is difficult to tell if the development of phonological awareness is normal or not, therefore accurate ages are needed when using a centile chart. A certain percentage of pupils in each age band of raw scores will score below any particular score. The centile corresponding to a raw score is the percentage of pupils in that age band who scored below that raw score, for example a centile rank of 25 indicates that 25% of the subjects scored below that raw score. Tables 6 to 14 give the centiles for the total test score as well as for each subtest using six-month age bands. A test is said to be standardised if norms have been established by administering the test to a large sample of pupils who are representative of their age group and in this case are all attending Gaelic-medium education. The separate subtests contribute to the profile of performance in different skills of phonological awareness. Using the appropriate table for each subtest or for the total test score, and a child's chronological age, a teacher can locate the centile ranks and transfer them onto the profile sheet, plotting the respective performances and forming a visual record (see Figures 14 and 15).

Table 6. Centile bandings for Total Phonological Awareness scores

Quartiles for scores of Total 2				
Age Bands		Centiles		
Yrs:mths	10	25	50	75
5:00 - 5:06	36	44	56	66
5:07 - 6:00	41	54	65	73
6:01 - 6:06	47	57	66	74
6:07 - 7:00	48	59	68	75
7:01 - 7:06	53	66	74	77
7:07 - 8:00	62	68	76	79
8:01 - 8:06	68	71	77	79

Table 7. Centile bandings for Rhyming subtest scores

Quartiles for scores of Rhyming Subtest				
Age Bands		Centiles		
Yrs:mths	10	25	50	75
5:00 - 5:06	5	5	7	8
5:07 - 6:00	5	7	7	8
6:01 - 6:06	5	7	8	8
6:07 - 7:00	5	7	8	8
7:01 - 7:06	6	7	8	8
7:07 - 8:00	6	7	8	8
8:01 - 8:06	6	8	8	8

Table 8. Centile bandings for Rhyme Production subtest scores

Quartiles for scores of Rhyming Production Subtest				
Age Bands		Centiles		
Yrs:mths	10	25	50	75
5:00 - 5:06	0	0	1	2
5:07 - 6:00	0	0	1	2
6:01 - 6:06	0	1	2	3
6:07 - 7:00	0	1	2	3
7:01 - 7:06	0	1	2	4
7:07 - 8:00	0	1	2	4
8:01 - 8:06	2	2	3	5

Table 9. Centile bandings for Syllable Blending subtest scores

Quartiles for scores of Syllable Blending Subtest				
Age Bands	Centiles			
Yrs:mths	10	25	50	75
5:00 - 5:06	0	0	5	7
5:07 - 6:00	3	5	9	9
6:01 - 6:06	3	6	9	9
6:07 - 7:00	5	7	9	9
7:01 - 7:06	6	8	9	9
7:07 - 8:00	6	8	9	9
8:01 - 8:06	6	8	9	9

Table 10. Centile bandings for Phoneme Blending subtest scores

Quartiles for scores of Phoneme Blending Subtest				
Age Bands	Centiles			
Yrs:mths	10	25	50	75
5:00 - 5:06	0	2	4	7
5:07 - 6:00	1	5	7	8
6:01 - 6:06	3	6	7	9
6:07 - 7:00	3	6	8	9
7:01 - 7:06	4	7	9	9
7:07 - 8:00	7	8	9	9
8:01 - 8:06	7	8	9	9

Table 11. Centile bandings for Initial Phoneme Deletion subtest scores

Quartiles for scores of Initial Phoneme Deletion Subtest				
Age Bands	Centiles			
Yrs:mths	10	25	50	75
5:00 - 5:06	1	3	5	6
5:07 - 6:00	1	3	6	7
6:01 - 6:06	1	4	6	8
6:07 - 7:00	1	5	6	8
7:01 - 7:06	4	6	7	8
7:07 - 8:00	4	6	7	8
8:01 - 8:06	4	6	8	8

Table 12. Centile bandings for Final Phoneme Deletion subtest scores

Quartiles for scores of Final Phoneme Deletion Subtest				
Age Bands	Centiles			
Yrs:mths	10	25	50	75
5:00 - 5:06	1	2	3	6
5:07 - 6:00	1	4	6	7
6:01 - 6:06	1	4	6	8
6:07 - 7:00	2	5	7	8
7:01 - 7:06	3	6	7	8
7:07 - 8:00	3	6	8	8
8:01 - 8:06	4	6	8	8

Table 13. Centile bandings for Polysyllabic Subtest scores

Quartiles for scores of Polysyllabic Repetition Subtest				
Age Bands	Centiles			
Yrs:mths	10	25	50	75
5:00 - 5:06	2	2	3	4
5:07 - 6:00	2	3	4	4
6:01 - 6:06	2	3	4	4
6:07 - 7:00	2	4	4	4
7:01 - 7:06	2	4	4	4
7:07 - 8:00	3	4	4	4
8:01 - 8:06	4	4	4	4

Table 14. Centile bandings for Letter Knowledge subtest scores

Quartiles for scores of Letter Knowledge Subtest				
Age Bands	Centiles			
Yrs:mths	10	25	50	75
5:00 - 5:06	21	23	27	29
5:07 - 6:00	21	24	28	30
6:01 - 6:06	23	24	28	30
6:07 - 7:00	22	25	28	30
7:01 - 7:06	25	27	30	31
7:07 - 8:00	27	29	30	31
8:01 - 8:06	29	29	30	31

Each subtest score can be mapped onto a graph using the centile bandings in each table. In order to illustrate this, Figure 14 gives the profile for Child X, aged 6:08 who scored 8 in the Rhyming subtest; scored 3 in the Rhyme Production subtest; scored 9 in the Syllable Blending subtest; scored 9 in the Phoneme Blending subtest; scored 8 in the Initial Phoneme Deletion subtest; scored 7 in the Final Phoneme Deletion subtest; scored 4 in the Polysyllabic Repetition subtest and scored 31 in the Letter Knowledge subtest. These scores can be plotted onto the graph until a complete profile is constructed which will enable a teacher to see at a glance where a child's difficulties lie. Where the same score appears in the 50th and 75th centiles, for example, the higher centile is recorded. Child X's subtest results fall into the 50th or 75th centiles indicating that this child would appear to have no apparent problems with phonological awareness as the scores fall within normal limits compared to the peer age group. The median score for each group falls at the 50th centile as that is the score below which 50% of the scores fall.

Figure 14. Results profile for Child X
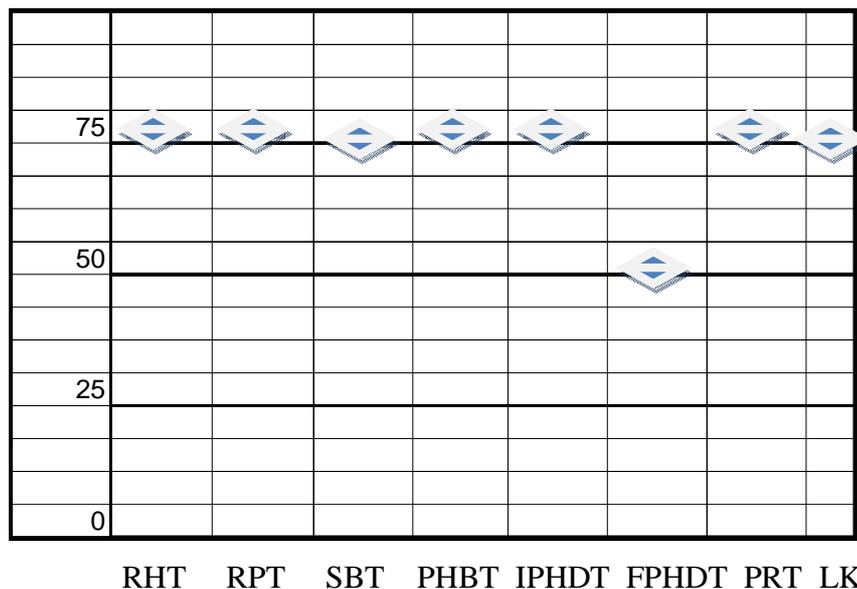
KEY

RHT	Rhyme Detection	IPHDT	Initial Phoneme Deletion
RPT	Rhyme Production	FPHDT	Final Phoneme Deletion
SBT	Syllable Blending	PRT	Polysyllabic Repetition
PHBT	Phoneme Blending	LKT	Letter Knowledge

Figure 15 gives the profile for Child Z, aged 6:02, who scored 7 in the Rhyming subtest; scored 1 in the Rhyme Production subtest; scored 8 in the Syllable Blending subtest; scored 6 in the Phoneme Blending subtest; scored 2 in the Initial Phoneme Deletion subtest; scored 0 in the Final Phoneme Deletion subtest; scored 3 in the Polysyllabic Repetition subtest and scored 25 in the Letter Knowledge subtest. Child Z has scored below the norms reported for the normative sample and would appear to have poor awareness of the oral sound segments that comprise words. In order to help Classroom Teachers decide upon a programme of intervention, strategies such as those suggested in Appendix XVII should be put in place but the emphasis should be made on games and activities to support this intervention, especially using multi-sensory methods as described by Briggs (1997).

Figure 15. Results profile for Child Z
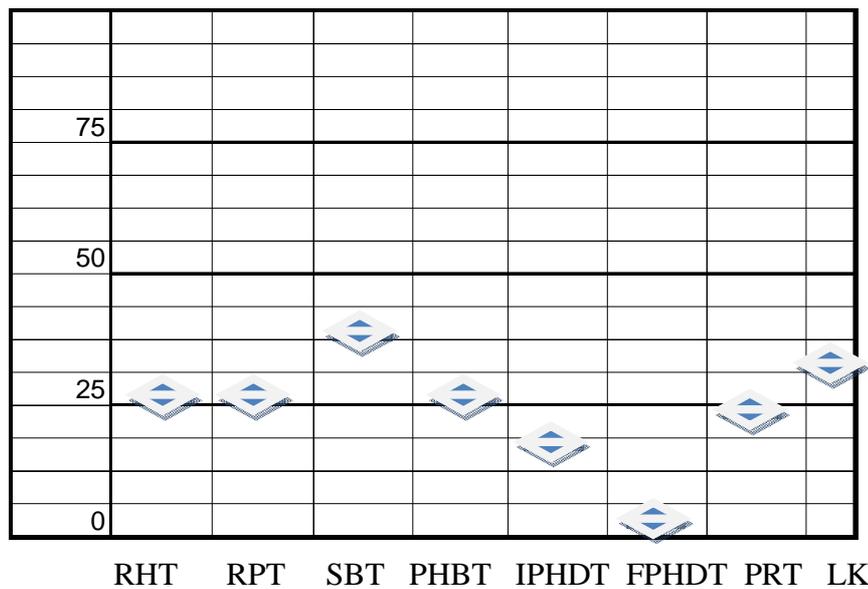
KEY

RHT	Rhyme Detection	IPHDT	Initial Phoneme Deletion
RPT	Rhyme Production	FPHDT	Final Phoneme Deletion
SBT	Syllable Blending	PRT	Polysyllabic Repetition
PHBT	Phoneme Blending	LKT	Letter Knowledge

7.7 Validity of Screening Test

The construct validity of the screening test was assessed by inter-correlating all the subtest scores. The relationship between individual subtests was investigated using Spearman's Rank Order Correlation (rho). This correlation coefficient provides an indication of the covariance relationship between variables. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The size of the value of Spearman's rho indicates the strength of the relationship between variables. The strength of the value is considered to be large if it is between 0.5 and 1.0, medium if it is between 0.3 and 0.49 and small if it is between 0.1 and 0.29 (Cohen ,1988, as cited by Pallant, 2005).

The intercorrelations for the sample as a whole are presented in Table 15. In this study, there was a strong correlation between the Final Phoneme Deletion subtest and the Initial Phoneme Deletion subtest (r=0.64, n=368, p< 0.0005. Similarly strong correlations were found between Final Phoneme Deletion and Phoneme Blending (r=0.60, n=368, p<0.0005); between Initial Phoneme Deletion and Phoneme Blending (r=0.58, n=368, p<0.0005); between Initial Phoneme Deletion and Letter Knowledge (r=0.57, n=368, p<0.0005); between Phoneme Blending and Letter Knowledge (r=0.50, n=368, p<0.0005). Medium correlations were found between Rhyme Detection and Rhyme Production (r=0.38, n=368, p<0.0005); between Rhyme Detection and Initial Phoneme Deletion (r=0.31, n=368, p<0.0005); between Rhyme Detection and Final Phoneme Deletion (r=0.32, n=368, p<0.0005); between Rhyme Production and Initial Phoneme Deletion (r=0.41, n=368, p<0.0005); between Rhyme Production and Phoneme Blending (r=0.36, n=368, p<0.0005); between Rhyme Production and Letter Knowledge (r=0.33, n=368, p<0.0005); between Rhyme Production and Final Phoneme Deletion (r=0.33, n=368, p<0.0005); between Phoneme Blending and Polysyllabic Repetition (r=0.33, n=368, p<0.0005); between Syllable Blending and Final Phoneme Deletion (r=0.32, n=368, p<0.0005); between Syllable Blending and Rhyme Production (r=0.32, n=368, p<0.0005); between Syllable Blending and Initial Phoneme Deletion (r=0.31, n=368, p<0.0005); between Final Phoneme Deletion and Letter Knowledge (r=0.49, n=368, p<0.0005); and Final Phoneme Deletion and Polysyllabic Repetition (r=0.33,n=368, p<0.0005).

Table 15. Intercorrelations of the Subtests

Correlations

			RHT	RPT	SBT	PHBT	IPHDT	FPHDT	PRT	LKT
Spearman's rho	RHT	Correlation Coefficient	1.000	.381**	.255**	.292**	.310**	.325**	.087	.226**
		Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.097	.000
		N	368	368	368	368	368	368	368	368
	RPT	Correlation Coefficient		1.000	.325**	.362**	.406**	.334**	.152**	.331**
		Sig. (2-tailed)		.	.000	.000	.000	.000	.004	.000
		N		368	368	368	368	368	368	368
	SBT	Correlation Coefficient			1.000	.282**	.305**	.319**	.219**	.226**
		Sig. (2-tailed)			.	.000	.000	.000	.000	.000
		N			368	368	368	368	368	368
	PHBT	Correlation Coefficient				1.000	.579**	.603**	.232**	.502**
		Sig. (2-tailed)				.	.000	.000	.000	.000
		N				368	368	368	368	368
	IPHDT	Correlation Coefficient					1.000	.639**	.250**	.570**
		Sig. (2-tailed)					.	.000	.000	.000
		N					368	368	368	368
	FPHDT	Correlation Coefficient						1.000	.287**	.489**
		Sig. (2-tailed)						.	.000	.000
		N						368	368	368
	PRT	Correlation Coefficient							1.000	.169**
		Sig. (2-tailed)							.	.001
		N							368	368
	LKT	Correlation Coefficient								1.000
		Sig. (2-tailed)								.
		N								368

**. Correlation is significant at the 0.01 level (2-tailed).

KEY

RHT	**Rhyme Detection**	**IPHDT**	**Initial Phoneme Deletion**
RPT	**Rhyme Production**	**FPHDT**	**Final Phoneme Deletion**
SBT	**Syllable Blending**	**PRT**	**Polysyllabic Repetition**
PHBT	**Phoneme Blending**	**LKT**	**Letter Knowledge**

The eight different subtests were subjected to principal component analysis (PCA) with orthogonal varimax rotation using SPSS Version 17. Orthogonal rotation was selected as the results are easier to interpret, according to Pallant (2005). Prior to performing PCA the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of all coefficients of 0.3 and above, indicating that factor analysis is appropriate. The Kaiser-Meyer-Oklin value was 0.85, exceeding the recommended value of 0.6 (Kaiser, 1974) and the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix (See Table 16).

Table 16. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.850
Bartlett's Test of Sphericity	Approx. Chi-Square	749.886
	df	28
	Sig.	.000

Pallant suggests that the sample size should be as large as possible, at least 300 cases, and in this instance the sample of 368 is adequate for factor analysis. PCA revealed the presence of two components with Eigen Values exceeding 1 and an inspection of the screeplot revealed a clear break after the second component. Two components were extracted and rotated. 2-Factor analysis is shown in Tables 17 and 18. As the third component was close to 1 it was decided to retain the three components for further investigation. The factor matrix uses Varimax rotation and the three factor output presents the pattern of loadings in a way that is easier for teachers to interpret as shown in Table 19. Factor 1 had an Eigen Value of 3.3 explaining 41 % of the variance in the test scores. Initial and Final Phoneme Deletion as well as Phoneme Blending and Letter Knowledge loaded highly on this factor. Factor 2 had an Eigen Value of 1.08 accounting for 13% of the variance in the test scores. Rhyme Detection and Rhyme Production loaded highly on this factor. Finally, Factor 3 had an Eigen value of 0.83 explaining 10% of the variance in the test scores. Syllable blending and Polysyllabic Repetition loaded highly on this factor.

Table 17. Total variance explained

Compon ent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.310	41.376	41.376	3.310	41.376	41.376	2.714	33.920	33.920
2	1.083	13.542	54.918	1.083	13.542	54.918	1.680	20.997	54.918
3	.832	10.403	65.321						
4	.748	9.345	74.666						
5	.672	8.395	83.061						
6	.602	7.531	90.592						
7	.417	5.213	95.805						
8	.336	4.195	100.000						

Extraction Method: Principal Component Analysis.

Table 18. Factor analysis of subtests using 2 components

Rotated Component Matrix[a]

	Component	
	1	2
FPHDT	.785	.226
IPHDT	.775	.275
PHBT	.756	.285
LKT	.702	.127
PRT	.569	
RHT		.796
RPT	.183	.727
SBT	.276	.542

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser

Normalization.

a. Rotation converged in 3 iterations.

Table 19. Factor analysis of subtests

Rotated Component Matrix[a]

	Component		
	1	2	3
FPHDT	.822		
IPHDT	.820		
PHBT	.773		
LKT	.697		
RHT		.793	
RPT		.704	
PRT			.840
SBT		.507	.569

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

KEY

IPHDT Initial Phoneme Deletion FPHDT Final Phoneme Deletion   PHBT Phoneme Blending LKT Letter Knowledge

RHT Rhyme Detection   RPT Rhyme Production   PRT Polysyllabic Repetition SBT Syllable Blending

7.8 Reliability of Screening Test

To check the internal consistency of the test, the Cronbach's alpha coefficient was calculated (Cronbach, 1951). In order to see if all the subsets measure the same underlying construct and can be considered reliable, a coefficient of 0.7 or above should be obtained. Six of the reliability coefficients were greater than or equal to 0.7 demonstrating that each subset is measuring the same attribute (See Table 20). According to Muter et al. (1997) the rhyme production scale in the 'Phonological Abilities Test' has good internal consistency, with a Cronbach alpha coefficient reported of 0.83. In the current study, the Cronbach alpha coefficients for the two rhyming subsets were 0.65 and 0.69. These subtests are slightly lower than the other subtests and if their Cronbach alpha values had been less than 0.3 that could have indicated that these subtests were measuring something different from the test as a whole. However, if the coefficient for Rhyme Production was rounded, it would equal 0.7 which can be considered as reliable. Both Rhyme Detection and Rhyme Production subset results reflect the observations made in Chapter 3.7 with regard to the complexity of the structure of rhyme in Gaelic and teachers commented on this (See Chapter 8.1).

Table 20. Internal reliability of the subtests

Subset	Cronbach's Alpha Total Correlation
Rhyme Detection	0.65
Rhyme Production	0.69
Syllable Blending	0.89
Phoneme Blending	0.84
Initial Phoneme Deletion	0.86
Final Phoneme Deletion	0.86
Polysyllabic Repetition	0.70
Letter Knowledge	0.87

7.9 Test-Retest Reliability

The inter-temporal stability of the scores was assessed using the Pearson product-moment correlation coefficient. This was desirable in order to verify the reliability of the test and measured the data collected on two different occasions under the same conditions by the same administrator. One school volunteered to administer the test again to ten pupils. The correlation coefficient indicated a strong, positive correlation between the two total phonological awareness scores ($r=0.97$, $n=10$, $p<0.0005$).

A further test, a paired-samples t-test, conducted on the data from the same pupils as the second test (Time 2) was not conducted until two months after the first test (Time 1), between which times the Class Teacher had focused on the areas of weakness in phonological awareness with five pupils who had shown particular weaknesses and had low scores at Time 1. The results of the paired-samples t-test can detect the impact of intervention on pupils' scores of phonological awareness over a relatively short period of time. There was a statistically significant increase in total phonological awareness scores from Time 1($M=54$, $SD=16.4$) to Time 2($M=67$, $SD=23.2$; $t(4)=4.22$, $p=0.01$).

Another paired-samples t-test was also conducted on the Time 1 and Time 2 scores from the other five pupils who had not received any intervention, as according to Fields (2005), this analysis can be performed to test the hypothesis that the two scores have the same mean. The score at Time 1 ($M=73$, $SD=5.1$) increases to Time 2 ($M=75$, $SD=4.2$; $t(4)=2.7$, $p=0.05$) indicating that the difference between the scores is on the verge of statistical significance. However, two months had elapsed between the two test times and there would be some expected increase in two months with no intervention. A regression analysis was carried out by regressing Total Phonological Awareness (TPA) on [Age] for the whole sample. This gave the equation for the straight line relationship TPA $= 29.3+0.464$[Age]. The slope is 0.464 which is the increase in phonological awareness per month therefore in two months a pupil would be expected to have an increase of 0.464 x 2=0.928 or approximately 1 point.

7.10 Gender Difference

Scores were obtained from a total of 180 boys and 188 girls. There was no significant difference in scores for boys (M=67.27, SD=11.9) and girls (M=67.68, SD=11.9). The magnitude of the differences in the means was not significant. A t-test is not appropriate in this case as a suitable tool to compare the total phonological awareness scores for boys and girls because the data is not normal as required for a t-test. Instead of comparing means of the two groups, the medians were compared using the Mann-Whitney U Test. As the scores are converted into ranks the actual distribution of the scores does not matter. The Z-approximation value was -.44 with a significance level of p = 0.66. The probability value (p) is not less than or equal to 0.05, so the result is not significant. There is no statistically significant difference in the total phonological awareness scores of boys and girls despite the fact that several studies have found higher prevalence rates of language impairment in boys than in girls in English. In most studies, approximately twice as many boys have been identified as having a language impairment (Donaldson, 1995). The mean results of the total phonological awareness scores are shown in Figure 16.

Figure 16. Mean scores of phonological awareness for girls and boys
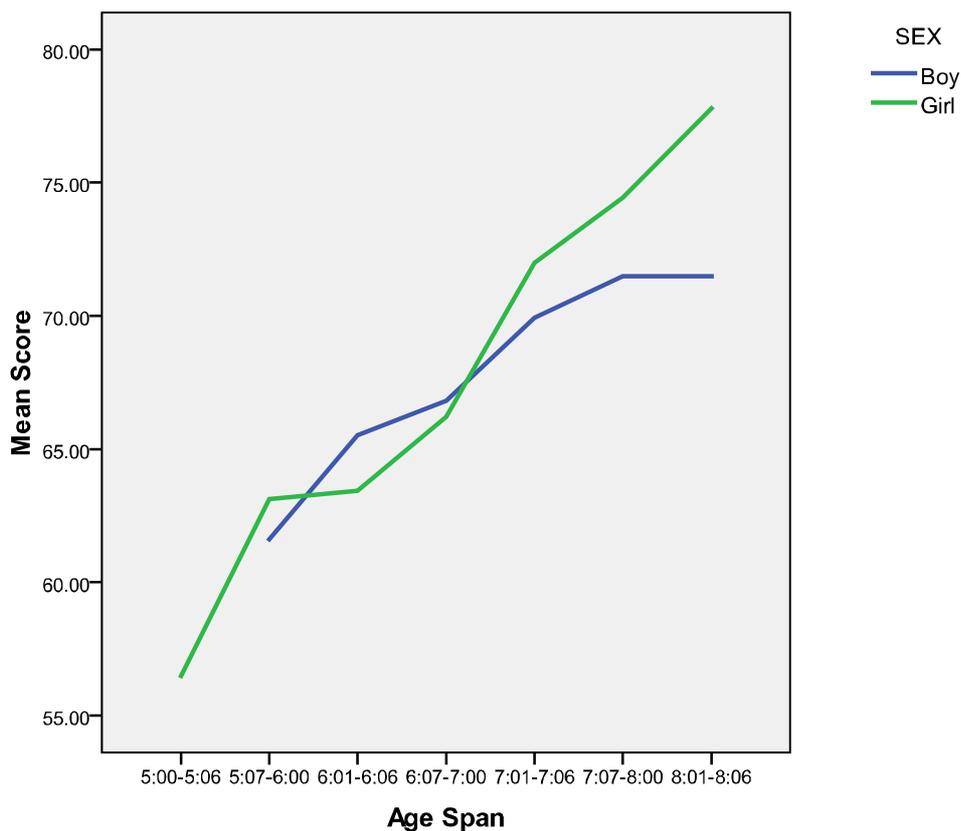
7.11 Linguistic Background and incidence of language difficulties

Within the broad scope of the research the levels of language exposure were considered in order to see whether different levels of exposure to the language had an impact on phonological awareness. Class Teachers were asked to answer ten Yes/No questions regarding pupils' Gaelic background (See Appendix VIII). The information fell into three categories: fluency and use of Gaelic; pre-school nursery attendance; Gaelic-speaking parents and grandparents.

Fluency and use of Gaelic

Teachers declined to give an indication of fluency for twenty pupils, ten of whom came from one school. Class Teachers recorded the following:-

141 out of 348 children were deemed to be fluent Gaelic speakers – 38% of the total number of pupils who had been assessed (See Figure 17). Of the remaining 207 pupils, teachers thought that 130 could understand but rarely speak Gaelic but also stated that 133 out of the remaining 207 children were deemed to have only a little

Gaelic. As can be seen, teachers had difficulty deciding whether a non-fluent pupil had only a little Gaelic or could understand the language but rarely speak it.

Figure 17. Teachers' views of pupils' fluency
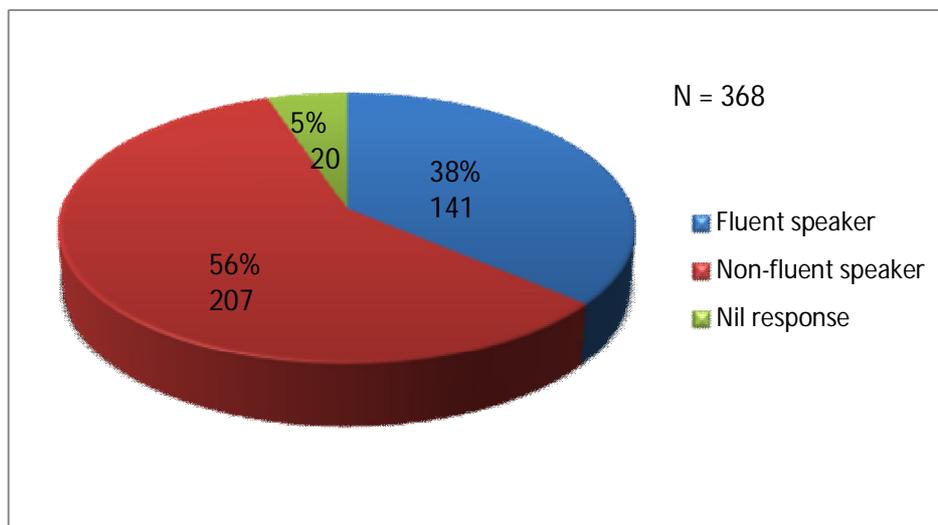
The means of the total test scores of pupils whom teachers thought were fluent Gaelic speakers were examined alongside those who were not fluent speakers. The results (Figure 18) show a mean total score for phonological awareness of 70.87 for those pupils who were deemed to be fluent in Gaelic which was higher than the mean score of 64.92 for pupils who were not deemed to be fluent (Figure 19). The significance of the difference between the two groups, fluent and non-fluent speakers, was tested using the Mann-Whitney U Test and found a p value < 0.0001. The Z-approximation value was -4.3, which shows the difference is highly significant statistically. The Mann-Whitney test was used because the distribution of scores were not normal, (Kolmogorov-Smirnov < 0.0001). These statistics were interesting to note when the question of differences in performance in the screening test were raised in interviews. Seven of the interviewees believed that there *were* noticeable differences in performance between pupils who were fluent in Gaelic and learners, and yet seven others thought that there were *no* differences. Four were unwilling to commit one way or another. Clearly this is an area where teachers, in some cases, are unclear as to what constitutes fluency. As discussed in Chapter 3.4, Cummins' (1984) BICS/CALP theory would appear to be relevant here. Most pupils in Primary 2 Gaelic-medium primary classes will have had about two years exposure to Gaelic

and Cummins believed that this length of exposure was only sufficient for basic communicative skills (BICS).

Figure 18. Frequency of test scores for fluent speakers

Test Scores for fluent speakers

Mean =70.88
Std. Dev. =9.462
N =141
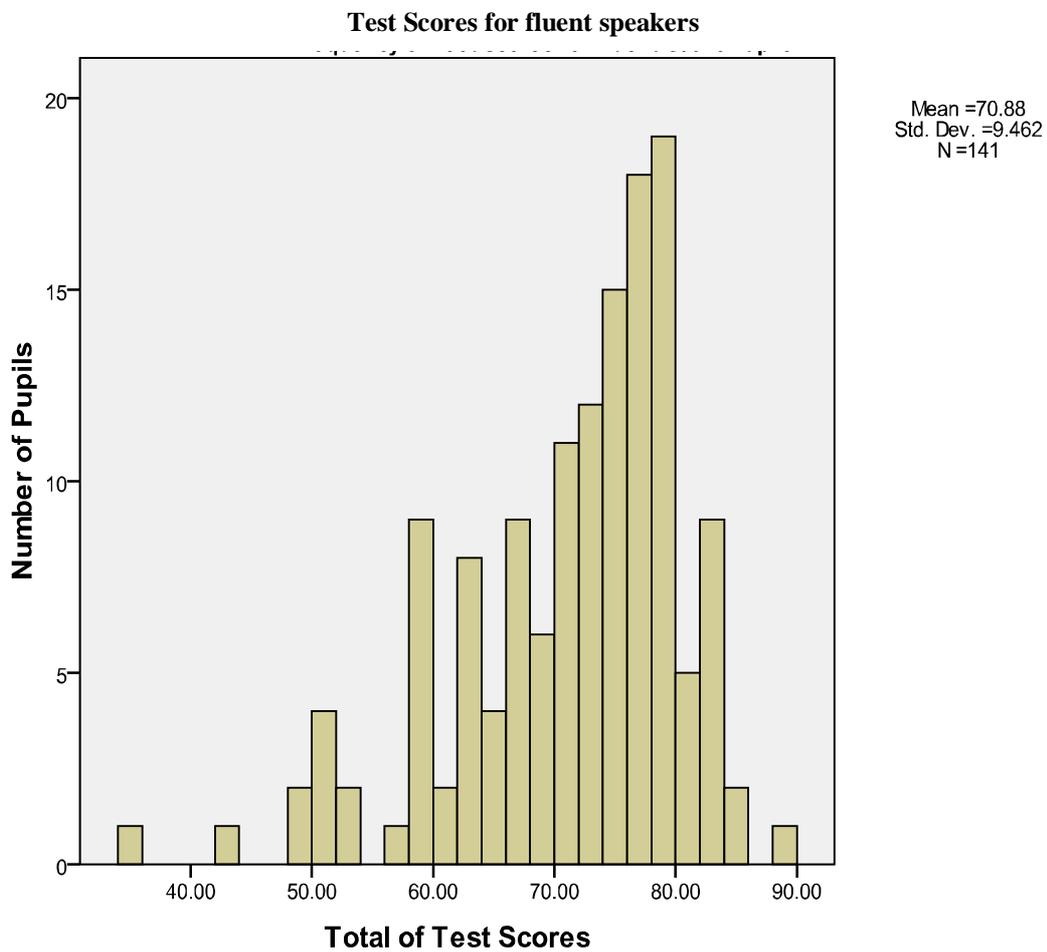
Figure 19. Frequency of test scores for non-fluent speakers

Test Scores for Non-fluent Pupils

Mean =64.92
Std. Dev. =13.023
N =207
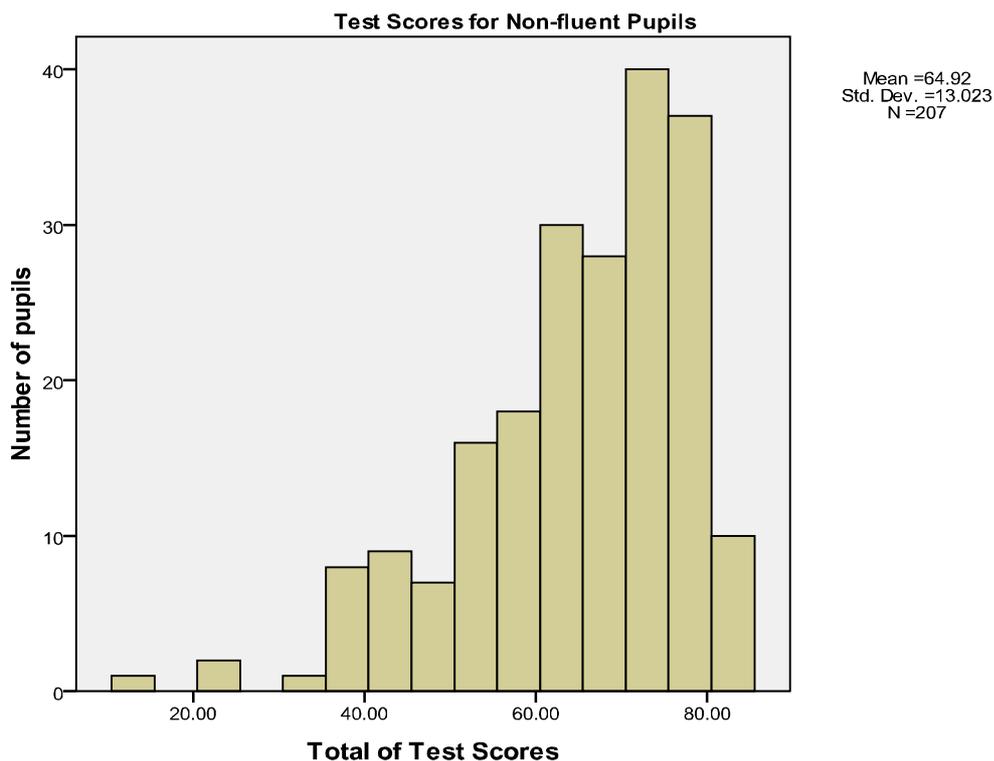
Pre-school nursery attendance

Results for this question decreased from 368 to 344 which can be explained by the lack of teachers' knowledge of some pupils' pre-school experiences. Figure 20 displays the Classroom Teachers' record of the following:-

244 out of 344 children had attended a Gaelic-medium nursery – 71%.

93 out of 344 children had attended an English nursery – 27%.

7 out of 344 children had attended both English and Gaelic nurseries – 2%.

It was no surprise that a large majority of the pupils had attended Gaelic-medium nursery as it is usually in these early stages that parents begin to think about their children's education. If they lived in an area where Gaelic is spoken by a good number of the residents then the percentage of pupils attending Gaelic-medium education was higher. For example, on the Isle of Tiree in 2008, forty pupils attended the Primary School, sixteen of whom were in Gaelic-medium education (University of Strathclyde, 2009). In the same year, four pupils entered Gaelic-medium Primary 1 while four children attended Gaelic-medium nursery, indicating that a high proportion of pupils benefit from learning Gaelic pre-school in Gaelic-speaking areas. Parents are encouraged by Gaelic-medium schools to send their

child to Cròileagan or Gaelic-medium nursery especially if there is no Gaelic in the home.

Figure 20. Pre-school nursery attendance
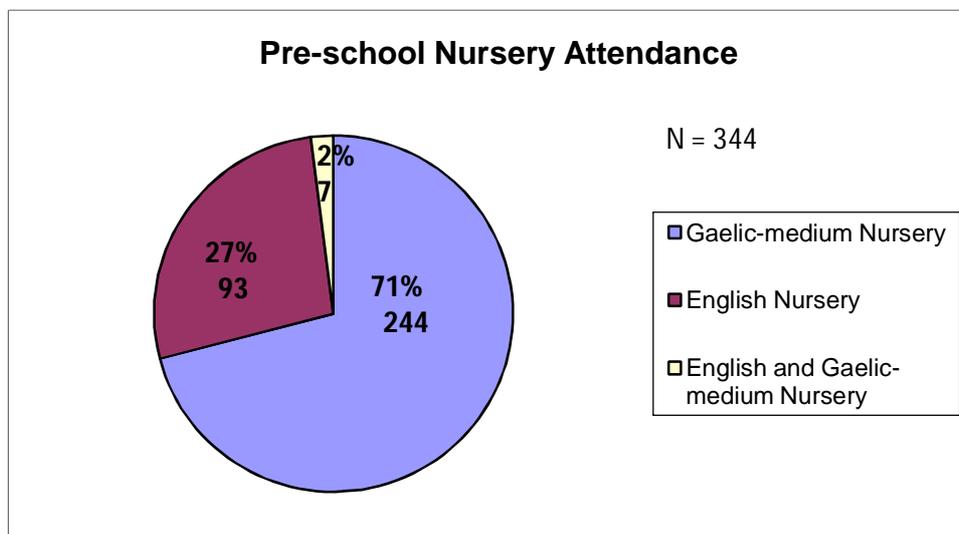
Gaelic-speaking parents and grandparents

The results for the question regarding who spoke Gaelic in the home decreased from 368 responses to 328 which can be explained by either the lack of teachers' knowledge of pupils' home backgrounds or reluctance on the teachers' part to categorise parental levels of Gaelic knowledge. Classroom Teachers recorded the following as indicated in Figure 21:-

119 out of 328 pupils had parents or guardians who spoke Gaelic – 35%.

80 out of 328 pupils had no Gaelic at home – 23%.

129 out of 328 parents or guardians were learning Gaelic – 38%.

150 out of 328 pupils had at least one grandparent who could speak Gaelic – 44%

These percentages do not add up to 100% as some responses overlapped. The amount of parents reported to speak Gaelic in the home, 35%, is comparable with the statistics reported by teachers of pupils who were fluent Gaelic speakers – 38%. Despite the fact that the majority of pupils had some form of opportunity to hear Gaelic, a large number of pupils were deemed not to be fluent speakers indicating that the language is not being passed on in the home as a community language and

Gaelic-speaking parents often use mainly English in the home as noted by Grant (1983).

Figure 21. Gaelic-speaking parents and grandparents

Gaelic in the Home

Category	Percentage
At least 1 Gaelic speaking grandparent	44%
Parents learning Gaelic	38%
No Gaelic at home	23%
Gaelic speaking parents/guardians	35%

Number of Pupils
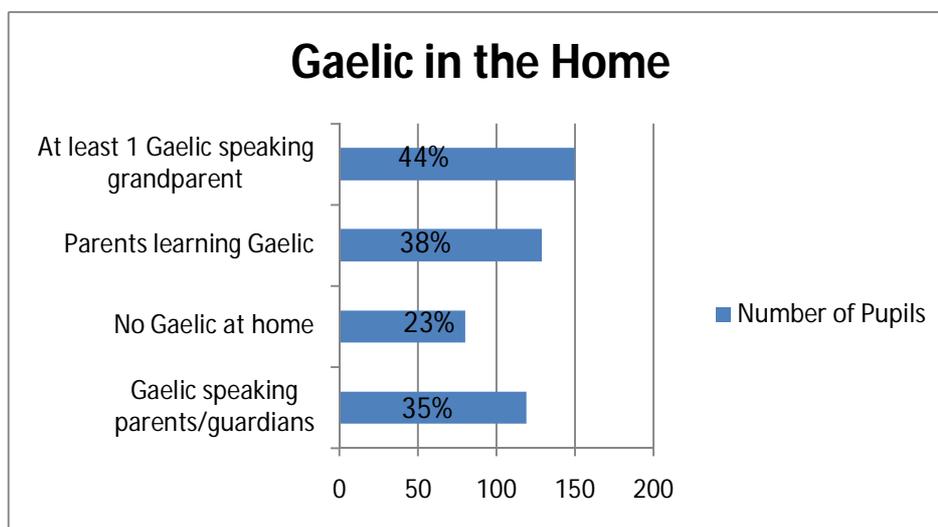
7.12 Questionnaires

The questionnaires were sent out with the screening test during the autumn of 2008 to all teachers who had agreed to participate in this study. Questions were designed to elicit both qualitative and quantitative data involving first, a closed question and second, an open question. Initial questions were rated on a scale of three: *yes - quite – no* and these were analysed quantitatively using the computer program SPSS Version 17. Not all respondents answered every question in the questionnaires and when this was the case they were coded as 'Nil response'. Tables 21 to 29 on pages 213 - 215 give the results. The second responses involved individual comments offered to extend the first answer lending greater quality of information. The qualitative data was coded according to theme and searched using NVivo 8 software for Windows XP to demonstrate the range of answers and differences or commonality between responses. To ensure anonymity, each person who had completed a questionnaire was given an identification number so that the data could be cross-referenced between schools, authorities and teaching position. These attributes were chosen to see if there was any consensus between schools within authorities as well as between authorities. It was also intended to find out what

teachers holding different positions within the schools understood about phonological awareness and its role in literacy acquisition.

The following code information was assigned to each respondent:

Q = Questionnaire   HT (+number) = Head Teacher

I = Interview   DHT (+number) = Depute Head Teacher

H = Highland Council   PT (+number) = Principal Teacher

WI = Western Isles Council   CT (+number) = Class Teacher

O = Other Council   SfL (+number) = Support for Learning Teacher

Thus IPT20WI refers to an interview with a Principal Teacher from School 20 within Western Isles Council. Western Isles and Highland Councils were identified as they returned 20 and 13 questionnaires respectively whereas three returns came from Argyll Council and nine came from separate local authorities. Western Isles and Highland Councils together contained more than fifty per cent of the pupils involved.

There was frequent opportunity for individual comments to be made in both questionnaire and interview. The questions which were investigated in the questionnaire can be seen in Appendix XIV, which gives full details of the questionnaire responses, grouped according to teaching position. A total of 45 questionnaire responses were received from Gaelic-medium units and schools. Two schools returned the test results but did not return the questionnaire completed. No reason was given but three teachers who were interviewed said they had not been given the full package at first, only the test materials, and had been given the questionnaire and consent form by the Head Teacher at a later date. Three schools had photocopied the questionnaire and returned two questionnaires per school, each completed by different teachers who had conducted the tests, one teaching Primary 2, the other teaching Primary 3.

Figure 22. Returns of questionnaires relating to teaching position in schools
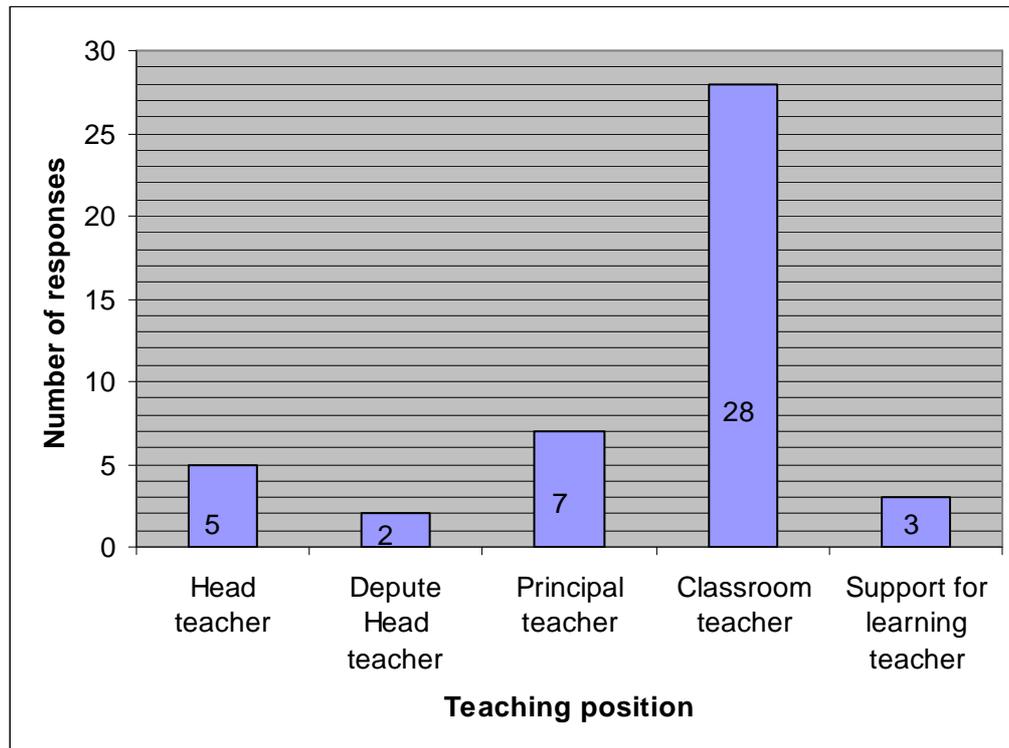
The questionnaire respondents held various roles in the schools as shown in Figure 22. As the screening test had been intended for use by Classroom Teachers, it was encouraging to find that 62.2 % of respondents were indeed Classroom Teachers. In some of the small Gaelic units there is often only one teacher so it was to be expected that some respondents would hold a promoted post. Only three Support for Learning Teachers were involved in the questionnaires. The author's previous research (Lyon, 2003) found that very few Support for Learning staff are available in schools where Gaelic-medium education takes place and MacLeod and MacLeod (2001) also indicated that teachers sometimes had only very limited access to support. They usually are employed in larger primary schools or in a larger primary school containing a Gaelic unit. The following tables show the results of each question in the questionnaire and are also given as a rounded percentage.

Table 21. Did you feel it accurately tested pupils' phonological skills?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	4	1	0	0
Depute Head Teachers	2	2	0	0	0
Principal Teachers	7	4	2	0	1
Classroom Teachers	28	20	7	0	1
Support for Learning Teacher	3	0	2	0	1
Total	45	30	12	0	3
		67%	27%	0%	6%

Table 22. Do you think it identified areas of phonological weakness?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	4	1	0	0
Depute Head Teachers	2	2	0	0	0
Principal Teachers	7	6	1	0	0
Classroom Teachers	28	26	2	0	0
Support for Learning Teacher	3	2	0	0	1
Total	45	40	4	0	1
		89%	9%	0%	2%

Table 23. Do you use any other similar tests?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	0	1	2	2
Depute Head Teachers	2	1	0	1	0
Principal Teachers	7	1	0	5	1
Classroom Teachers	28	6	2	18	2
Support for Learning Teacher	3	1	0	1	1
Total	45	9	3	27	6
		20%	7%	60%	13%

Table 24. Was the test easy to administer?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	5	0	0	0
Depute Head Teachers	2	1	1	0	0
Principal Teachers	7	3	2	0	2
Classroom Teachers	28	24	4	0	0
Support for Learning Teacher	3	2	0	0	1
Total	45	35	7	0	3
		78%	16%	0%	6%

Table 25. Did you find the results informative?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	3	0	1	1
Depute Head Teachers	2	2	0	0	0
Principal Teachers	7	3	2	0	2
Classroom Teachers	28	19	6	2	1
Support for Learning Teacher	3	3	0	0	0
Total	45	30	8	3	4
		67%	18%	7%	9%

Table 26. Would it be helpful to use tables to see pupils' results?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	1	0	2	2
Depute Head Teachers	2	1	1	0	0
Principal Teachers	7	4	2	1	0
Classroom Teachers	28	16	8	3	1
Support for Learning Teacher	3	2	0	0	1
Total	45	24	11	6	4
		53%	25%	13%	9%

Table 27. Was the length alright?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	5	0	0	0
Depute Head Teachers	2	2	0	0	0
Principal Teachers	7	4	2	0	1
Classroom Teachers	28	24	4	0	0
Support for Learning Teacher	3	3	0	0	0
Total	45	38	6	0	1
		85%	13%	0%	2%

Table 28. Will the pupils' results help you to plan future intervention?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	3	1	1	0
Depute Head Teachers	2	2	0	0	0
Principal Teachers	7	6	1	0	0
Classroom Teachers	28	19	5	3	1
Support for Learning Teacher	3	3	0	0	0
Total	45	33	7	4	1
		73%	16%	9%	2%

Table 29. Would you like to see any changes made to the test?

Group	*n*	Yes	Quite	No	Nil response
Head Teachers	5	0	0	2	3
Depute Head Teachers	2	0	0	1	1
Principal Teachers	7	1	0	3	3
Classroom Teachers	28	4	4	16	4
Support for Learning Teacher	3	2	0	0	1
Total	45	7	4	22	12
		16%	9%	49%	26%

7.13 Interviews

It had been hoped that 10% or four of the respondents would volunteer to be interviewed by telephone. Surprisingly, 40% or 18 of the total 45 respondents elected to take part in the telephone interviews examining the efficacy of the screening test and its ability to measure phonological awareness more closely and gave their contact details. One reason for their interest may have been the lack of previous assessment in this area as already identified (Lyon, 2003). The 18 interviewees consisted of 10 Classroom Teachers, seven teachers in promoted posts varying from Head Teacher, Depute Head Teacher to Principal Teacher, and two Support for Learning Teachers as shown in Figure 23. Once again, this was an opportunity to find out information from teachers holding various posts in schools, but in particular from Classroom Teachers.

Figure 23. Interviews relating to teaching position in schools
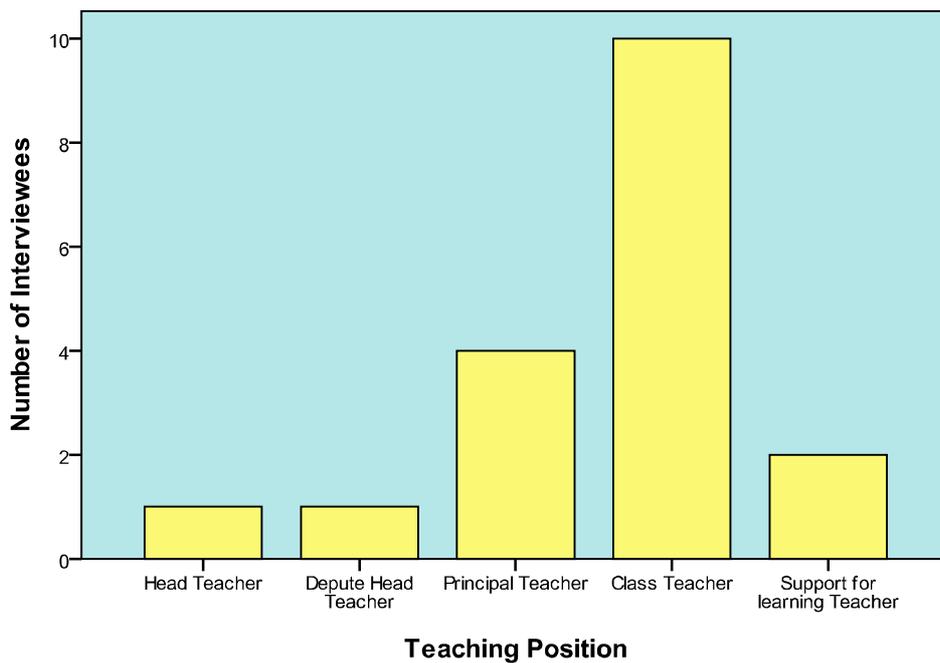
In all cases, a semi-structured format was used which allowed the interviewees to be led through a series of pre-planned questions. Interviewees were made aware that their responses were being recorded and transcribed in order that they could be

accurately represented during analysis. They were also made aware that the research results would be anonymous. Full transcripts were made of these interviews and the responses to the questions are grouped according to teaching position in Appendix XVI. The texts of these interviews were all typed into NVivo 8 software program for further analysis and coding.

The screening tool was designed for use by Class Teachers; as previously discussed, in the majority of the schools in question, Gaelic-medium teachers do not often have the services of a Support for Learning Teacher to carry out such assessments.   It was therefore expected that the majority of respondents were Classroom Teachers. From a research point of view, the fact that respondents who volunteered to be interviewed were drawn from different roles and posts of responsibility within the school system made for a wider perspective of the difficulties involved in assessing phonological awareness.

Seven out of the eleven local councils were represented among the interviewees. Details are given in Figure 24. The highest percentage of volunteers who were interviewed came from Western Isles Council, representing half of the interviewees, although the pupils from that council made up less than a third of the total number of pupils screened. Four interviewees came from Highland Council and the third category of interviewees came from five separate councils. One reason that more interviewees volunteered from these seven councils could be that they live in areas where more Gaelic is spoken. Western Isles and Highland Councils together contained more than fifty per cent of the pupils involved but 72% of the interviewees came from these councils. These phenomena can be explained by looking at the number of schools returning questionnaires from each council. Twenty schools returned questionnaires from Western Isles Council and thirteen returns came from Highland Council, representing 73% of the number of schools involved, compared with three from Argyll and Bute and nine schools from other councils.

Figure 24. Councils represented by interviewees
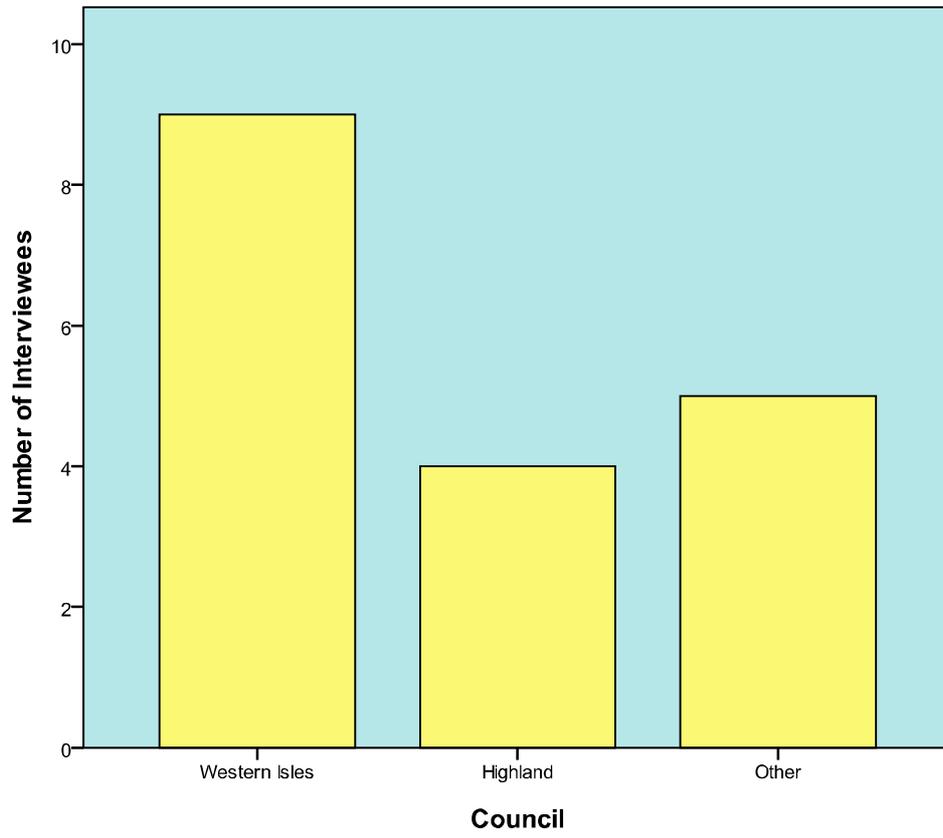
Chapter 8: Analysis and Discussion of Teachers' Responses

This chapter considers the responses made by teachers in the open questions of the questionnaires and in the interviews. Their individual comments have been analysed and collated by drawing them together by theme.

The coding of the interviews and open questions from the questionnaires using NVivo 8 software involved examining each question and searching for similar themes. The software is intended for qualitative information gathering but it was also possible to group information quantitatively. Once the texts of the interviews were typed into the software, it was possible to see a pattern of information appearing. This, when added to the quantitative information gathered, enabled several broad themes to emerge. Gibbs (2007) stated that if data is categorised thus by theme then not only can comparisons and summaries be made but new phenomena can also be identified. The value of considering quantitative data alongside qualitative is recommended by several authors (Cohen & Manion, 1994; Robson, 2002). The following themes appeared: Teaching of Phonics, Previous Identification and Assessment, Administration of Screening Test and Teachers' Views on the Screening Test. Following an examination of these themes, some of the common difficulties presented within these themes were gathered together in an effort to find out if phonological awareness of Gaelic-medium immersion pupils can be assessed in Gaelic. Most teachers were assessing their pupils' phonological skills for the first time and many expressed their delight that an assessment tool might be made available to them.

8.1 Teaching of Phonics

This section first focuses on points arising from the results pertaining to the teaching of phonics, in particular the difference in rhyming skills in Gaelic. Issues of fluency will be discussed in relation to the development of phonological awareness.

The rationale for choosing each subtest in the Gaelic screening test has already been discussed in Chapter 7.4, but it is interesting to note that a few teachers appeared to

be looking for further subtests, beyond phonological skills, that were similar to those included in some of the tests reviewed; "*sight reading words or CVC words to read*" QCT13O; "*a brief test of sight vocabulary, e.g. agus, tha, bha*" QPT37O. These involved using print and included reading of sight vocabulary, CVC and consonant blended words. This may have been because teachers were familiar with some of the English tests although only two teachers made a reference to any of the tests reviewed – Sound Linkage and Edinburgh Baseline.

It was useful to hear teachers' perceptions and knowledge of phonological awareness and its impact on early literacy. There was some evidence to support findings by Bos et al. (2001); Brady et al. (2009); and Crim et al. (2008) who all concluded that teachers demonstrated limited knowledge of phonological awareness and its terminology in relation to early reading development and phonics as discussed in Chapter 4.10. In several cases there was evidence to back this limited knowledge, demonstrated by comments such as: "*at Primary 1 they are just getting the grasp of what phonics are and how you say them and put them together*" IPT1O and "*at the moment I really do phonics in English when they come to start reading in English*" ICT11O; "*it was interesting to find out what the children knew and what they were unsure of regarding phonics*", "*reading has developed better after using the phonics first of all*" QPT41O; "*there were areas in the test that I don't often cover*" QCT8H. Teachers frequently referred to pupils knowing their 'phonics' as opposed to having 'phonological awareness'. Phonological awareness is the knowledge that separate speech sounds make up words, and that new words can be made up by manipulating speech sounds which is not the same as phonics which refers to learning letter-sound correspondences (Adams, 1990). Some realised that individual sounds are involved and that these can be blended but they were mainly restricted to asperational blends and double letter sounds. Only three references were made to syllables, one saying: "*it* [the test] *shows that the children find syllables very challenging and this has shown me I must do more on this*" QCT27WI. The other two teachers, QCT25aWI and QCT31WI made reference to the need to practise hand clapping of syllable beats in words.

Only four respondents made any reference to the following aspects of phonological awareness: initial phoneme deletion, final phoneme deletion and initial sounds; however, one Classroom Teacher referred to rhyming, blending and initial/ final phonemes and went into some detail describing some of her methodology in teaching phonological skills in class. "*We've been using mental maths strategies but with language and the same type of thing with phonics, like doing speedy phonics with them where I might write all those h words up and they're just sort of pointing*" ICT6H. This approach is in line with the new *Curriculum for Excellence* in Scotland, *Building the Curriculum 2*, published in 2007, which describes the experiences and outcomes for children's learning in ways that support a more active approach to learning and teaching in early primary school. This teacher was expressing the benefits of adopting an active approach to learning: "*it's rapid and doing that daily with them and exercises like that has helped them*" ICT6H.

Two interviewees referred to what they thought they knew about the phonological development of their pupils before the test by saying: "*It reinforced what we felt*" IDHT46WI and "*you pick up so much in class but it was good to do it in a more structured way*" ICT4WI. Another teacher knew that two pupils struggled but did not mention phonological development: "*where we were doing spelling tests there were two children in particular who were struggling and couldn't do it. Yes these two struggled with your test too*" ICT27WI.

The influence of English-medium primary schools, wherein the majority of Gaelic-medium units are embedded in most cases, was apparent. The positive aspects of this can be observed from this particular opinion: "*I used 'Jolly Phonics' in mainstream before and when I transferred to Gaelic I was using similar methods to 'Jolly Phonics' that I was making up myself. I was using a similar set of things with Gaelic*" and "'*Jolly Phonics' worked in English so when I changed to doing Gaelic I thought I would carry on with the same approach*" I CT4WI. As has been discussed in Chapter 3.6, 'Jolly Phonics' is a course developed using synthetic phonics which is an approach to teaching phonics which was recommended by Ionad Chaluim Chille Ìle (2003) for use in the Gaelic-medium classroom. Five teachers made

reference to the 'Jolly Phonics' course. With the exception of one teacher, all interviewees used 'Facal is Fuaim' in the Gaelic-medium classroom. This teacher used her own programme of phonics based on 'Facal is Fuaim'. There is no assessment attached to the 'Facal is Fuaim' course. The new Gaelic phonics resource 'Facal is Fuaim' is based on synthetic phonics and one interviewee gave an example of two siblings, one of whom had been taught using the previous method whereas his sister was taught using synthetic phonics: "*The example we give parents is chraobh. He would get the ch-r- ă -ŏ-bh and never say the word chraobh whereas she sees chr-ao-bh, three sounds for her so it makes a huge difference in that sense.*" ICT6H. Only two teachers made reference to the use of magnetic letters and boards to '*build words up*'. "*I think we're still in the embryonic stages with the 'Jolly Phonics' actually and I think that maybe in another year or two we'll be better at it*" IPT37O. Interestingly, one school appeared to be working the other way round giving this example: "*our mainstream are copying some of the strategies in 'Facal is Fuaim' with their 'Jolly Phonics', really upping the pace*"; "*they've decided to work the same format because it has worked so successfully.*" ICT6H.

In the questionnaire, 67% of teachers believed that the screening test accurately tested pupils' phonological skills (See Table 21, p. 213) and 89% of teachers thought that the test accurately identified areas of phonological weakness (See Table 22, p. 213). Twenty-seven percent of teachers stated that it tested pupils' phonological skills to some extent. No teachers thought that pupils' phonological skills had not been accurately tested and six per cent declined to respond. Three comments that reflect these opinions were: "*test confirmed areas of phonological weakness*" QCT9WI; "*it confirmed children who already experience difficulty with reading*" QPT1O, and "*showed specific areas of weakness and strength*" QCT11O. All interviewees replied in the affirmative, some stating that there were "*no surprises*". Some further comments were: "*results did corroborate attainment pretty much as expected*" IHT40WI; "*what it did was it reinforced what we had already come to the conclusion about*" IDHT46WI; "*those that do well with reading did well with the phonics test*" ICT30H; "*there were a couple – their needs had come up from ancillary staff - and it showed up when we did the assessment*" ISfL12H.

Only two teachers each said that one pupil in their class had scored better than expected. One of these pupils who performed better than had been expected received speech and language therapy but the teacher thought that this enhanced performance was due to the fact that the teacher had to say the words rather than the child himself. One Principal Teacher stated: "*by the end of the test I knew which children knew their sounds, which children knew their blends, which children didn't and I found that very helpful*" IPT37O.

Respondents were asked whether pupils' performance in class was reflected in the scores of the screening tool. Had there been a great deal of difference then it could be said that the screening tool was testing something other than what it was designed for. It was hoped that scores of phonological awareness would reflect a pupil's attainment in literacy and for the most part there was agreement on the point that the test results corroborated achievement as can be seen in Table 21, page 213. One teacher said: "*it confirmed what I thought about pupil 4 – that they find sounding out and breaking down sounds difficult.*" One teacher remarked that she had noticed a difference between one pupil tested and the other pupils and that this pupil had "*a wee bit of difficulty in the Gaelic reading*" ICT11O. She noticed a marked difference in test performance between him and the other pupils. Another teacher described a pupil who "*had a special skill in language, had achieved Level A* [National Test in Reading] *ahead of the others and she did really well in your test*" ICT33WI. One Principal Teacher knew that a pupil struggled with phonics and Gaelic language and said that it had been useful to "*home in on the specific phonological weaknesses as opposed to just sort of more general "he struggles with reading*" IPT44O. She went on to say that she hadn't tried before to determine what difficulties in particular he was having. The Head Teacher described a pupil who was not working quite at the same level as the other pupils and thought that the test results confirmed things for her.

One teacher thought that her pupils were doing well this year "*but it gave me an idea for a couple of them who need more work on things. It has made quite a difference*

since I identified them and they've been working on it" ICT10H. While responses were very positive, there was one Principal Teacher who felt that some more information or background knowledge on what each subtest was testing would be needed to plan next steps. Further into the interview, however, she thought: "*in terms of targeting support in an immersion class, which is difficult, that it* [the test] *would be very helpful*" IPT1O. She clarified her previous comment by saying that if each subtest could be described more specifically, for example, "*this element tests whether a child can hear the rhyme identified*" then she could find something specific to use or make up something herself "*to plug the gap*." If this test was to be made available to Gaelic-medium teachers in the future, it would be the researcher's intention to include more details of each subtest, test interpretation as well as tables of norms and a record sheet which would show a summary profile of performance and suggestions for intervention activities such as those in Appendix XVII.

One Class Teacher commented that the test "*quickly identified areas of difficulty and also showed where more practice was required*" ICT40aWI. She noticed that there were things that the test picked up on that she hadn't, especially rhyming words. A total of 38 teachers made a comment on the skill of rhyming and several teachers expressed the opinion that teaching rhyming in Gaelic is very difficult at immersion stages because of the lack of rhyme in Gaelic. Twelve teachers commented on the Rhyme Production subtest saying that "*pupils found it hard to think of words in the rhyme production section*" QCT30H. "*Rhyme Production seemed to be something that gave most a problem. I will need to address this with work in class*" QCT29WI. "*I am also going to do more on rhyme as they all struggled to think of words to rhyme with bùth & ann*" QCT27WI. Pupils' results reflect these comments as can be seen in the normative data for the rhyme production subtest in Table 8, page 192. It should be noted, however, that the mean item scores for rhyme production were similar to those obtained in some of the tests reviewed, such as the Sound Linkage test and the Phonological Abilities Test. As this is the first skill in the development of phonological awareness, according to Hatcher (2000) and Adams (1990), it was not surprising that the mean scores followed an even trend against age. Bryant et al. (1989) and Goswami and Bryant (1990) are among researchers who support the

analogy theory and argue that rhyme awareness in pre-school can predict reading performance at school. This can be difficult in Gaelic, a language where rhyme is not as simple as in English as discussed in Chapter 3.7.

Comments reflected the difficulty in rhyming in Gaelic from rhyming in English: "*It's quite difficult at immersion stages because of the lack of rhyme in Gaelic.*" IPT1O. Some teachers felt that pupils were hampered in rhyme production because of "*not having a broad and easily accessible vocabulary*" QCT25WI; "*they haven't got the vocabulary*" IPT6O. Most teachers agreed that the hardest subtest was "*rhyme production as many of the children found this difficult*" QCT45H. Nine teachers said that they did not cover rhyming in Gaelic and comments ranged from: "*we don't really look at rhyming, that was something new to them in the test*" IPT6O to "*I don't think we use anything really*" IDHT46WI and even "*I don't know what is used but they* [Class Teachers] *do teach rhyme*" ISfL22WI. Several teachers felt that they required to do more work on rhyming: "*we are not doing enough rhyming in Gaelic*" IPT37O; "*the results highlighted weaknesses children have in rhyme production – more work to be done in class*" QCT28H. Discussion about the difference with rhyme in Gaelic from English took place in Chapter 3.7 where the focus is usually on the vowel sounds with no reference to the consonants at the end of the rhyme syllable. It was expected that pupils might have difficulty finding rhyming words in Gaelic but instructions were given that non-words would be acceptable. One Principal Teacher commented that "*the rhyming was really interesting for the kids did well in the test. I think they had sort of picked that up for themselves*" IPT37O. The rhyme subtests were included in the test developed by the researcher as phonological awareness can be evaluated through the use of activities requiring attentiveness to rhyme according to Goswami and Bryant (1990); Torgesen, Wagner and Rashotte (1999). Furthermore, Everatt et al. (2000) found that rhyme tasks were significant measures of phonological skills across bilingual and monolingual groups of pupils.

One difficulty referred to was the lack of suitable materials for use in the classroom. "*Not a lot of materials for rhyming activities in Gaelic at the early stages*" CT40WI;

"*I'm afraid there isn't anything. I don't make anything up but it would be very useful because they find that quite difficult*" ICT33WI. Three teachers claimed that they made up rhymes themselves. One resource, 'An Sgaoth', which came out in 2007, is a series of seventy-five books based on the 'Facal is Fuaim' phonics scheme. It was mentioned by only one teacher who said: "*I don't know if they are really rhyming but I know there's a series called 'An Sgaoth' which is some phonic support linked with 'Facal is Fuaim'.*" "*What it does is, if the letter sound is 'ch' a lot of the words in the text would be 'ch' words.*" "*You could pick out a sound each week to look at and find a particular sound pattern. I'm thinking about using it*" I11CTO. Another resource mentioned by two teachers is 'Aibidil nan Rannan Gòrach' by Western Isles Council but both teachers were not overenthusiastic about it. "'*Rannan Gòrach' is too difficult when they come in as complete beginners*" ICT33WI. No teacher was familiar with the BBC online programme 'Failte gu Fuaimean' which uses mainly rhyme in its stories. Referring to rhyme, one Principal Teacher admitted that: "*I don't think it's something that we're teaching in Gaelic and I think it's obviously something that we should be teaching but it's slipped through the net a wee bit*" IPT37O.

Many of the teachers work in multi-composite Gaelic-medium classes, sometimes with two classes consisting of Primaries 1-3 and Primaries 4-7. The vast majority of pupils come from non-Gaelic-speaking backgrounds, a point noted by HMIE (2005, p. 11): "*For most, learning Gaelic at pre-school is their first experience of the language.*" Gaelic language ability can therefore vary from pupils who are new to Gaelic-medium education to those already immersed in the language from up to three years. The frequent range of age as well as language ability in the Gaelic-medium classroom can present a huge challenge to teachers. Tasks set must be cognitively challenging but must also meet the language development needs of a range of learners. Teachers who were interviewed had different views about the language experience of their pupils. When asked whether there were any noticeable differences in performance between fluent Gaelic speakers and learners, there was no consensus of opinion. Nevertheless, the means of the total test scores for phonological awareness showed a significant difference - the mean score of pupils

whom teachers thought were fluent Gaelic speakers (Figure 18, p. 207) was 70.87 whereas the mean score of pupils who were not deemed to be fluent Gaelic speakers (Figure 19, p. 208) was 64.92. The difference between the two groups, fluent and non-fluent Gaelic speakers was highly significant statistically.

In the schools from the Western Isles, two teachers stated that all their pupils had Gaelic before coming to school but three other teachers interviewed from Western Isles thought that there was a difference in performance and another three thought that there was no difference. Comments ranged from: "*The fluent speakers were much easier*" ICT33WI and "*the Gaelic speakers were familiar with the words*" ICT19WI to "*no difference. I had one learner and she wasn't any different*" ICT27WI and one teacher qualified her response saying she had seen "*no differences. Certainly not in Primary 3. You may have noticed it in Primary 2 and possibly in Primary 1 you would notice that*" IHT40WI. One teacher believed there may have been a noticeable difference in part of the test: "*yes, with rhyme definitely because I think they hear it much more. But not the rest of the sounds I have to say. I don't think so*" ICT40aWI.

In Highland Council, only one interviewee thought that there was a difference: "*Yes. I actually found the fluent speakers worked through it much quicker*" ISfL32H. The other teachers in Highland stated that all their pupils had been learners although they all made reference to one or two pupils who had a Gaelic-speaking parent. In the other councils, four respondents stated that all the pupils were learners and that none of the pupils had Gaelic at home. The other interviewee in this category thought that there was a difference in performance between fluent Gaelic speakers and learners, and stated that "*all the Gaelic speakers or the ones with Gaelic speaking parents did well*" IPT44O. One comment was intriguing: "*well all the children we tested were in the Gaelic-medium unit so I don't know what that means*" IPT11O. This was interesting as this teacher seemed to be in some doubt as to whether the pupils were learners of Gaelic or Gaelic speakers. The questionnaire asked teachers to identify pupils as (i) fluent Gaelic speakers, as (ii) having an understanding of Gaelic but not fluent, or (iii) having only a little Gaelic. Figure 17, p. 206, indicates that 38% of the

pupils were deemed to be fluent speakers but teachers had difficulty deciding whether a non-fluent pupil had only a little Gaelic or could understand the language, but rarely speak it. As this was a subjective question some teachers may have been reluctant to give a definitive answer.

Some teachers referred to their pupils being fluent if they had only one Gaelic speaking parent whereas in other schools pupils with one Gaelic speaking parent were thought to be learners. An example of this can be seen in this comment: "*the children were not fluent but always speak Gaelic in class and have excellent understanding. None went to Gaelic nursery, but several attended Cròileagan*" QCT28H. Certainly there was a degree of ambiguity over this question as some pupils who had a lot of Gaelic were still deemed to be learners by some teachers. There perhaps needs to be a change in focus in teacher education, or rather learning how to teach, where bilingual pupils are involved. Teachers are taught what content to deliver and how to deliver it to but not how the content of language teaching is learned. This is just as applicable to teachers of bilingual pupils in English-speaking schools where many teachers are unfamiliar with the five stages of English language development as described by Learning and Teaching Scotland (2005). Teachers' conceptualisations of fluency can vary despite training and Stern (1987, p. 347) warned that teachers are sometimes "confused by the discussions about proficiency in terms of behavioural or performance objectives, linguistic or communicative competence". The distinction between fluent speakers and learners is present in cultural events too, such as the National Mòd, where An Comunn Gàidhealach competition rules (2010, p. 2) state: "If a child is being educated through the medium of Gaelic, he/she will be entered in Fluent competitions from the start of Primary 4 of given National Mòd year." Referring to the Scottish Qualifications Authority examinations, which offer both Native Speakers and Learners papers, Nisbet (2003, p. 56) would like to see the end of the present distinction between fluent speakers and learners and would prefer "a system of assessment that accepts that many young people now in Gaelic-medium education are learners to some extent". As far as this study goes, the screening tool was designed with all Gaelic-medium pupils in mind.

8.2 Previous Identification and Assessment

This section discusses how teachers, prior to using this assessment tool, would normally identify children at risk of reading failure or who struggled with phonological awareness. It looks at the assessments currently used and the role of support for learning in Gaelic-medium schools. The current arrangements for identification are gradually improving but there was not a great deal of difference found in the present study from the research findings completed by the researcher in 2003. The scarcity of resources will also be discussed.

Sixty per cent of questionnaire respondents stated that they did not use any other tests either in Gaelic or English (See Table 23, p. 213). One Principal Teacher stated that she "*hadn't really done any sort of determining what…. no formal sort of assessment like that. We had done sort of variations of what you had put together but nothing as formal as that from what we had done ourselves*" IPT44O. Although 20% of questionnaire responses stated that similar tests were used to identify phonological awareness skills this reduced to one interviewee out of the 18 teachers interviewed. Of the questionnaire respondents, five said the tests that they used were in English but most of these are not tests of phonological awareness. The Edinburgh Baseline Test, Sound Linkage, Aston Index, Nelson Screening Test, Dyslexia Screening Test (DST) were named in addition to the Special Needs Assessment Profile (SNAP) which had recently been translated into Gaelic. The Aston Index involves 16 tests covering visual and auditory discrimination, motor coordination, written language, reading and spelling as well as general underlying ability and attainment.

One teacher stated her intention to use SNAP saying "*it is a good overall assessment of needs but doesn't go into so much detail phonologically*" QCT7H. SNAP is a computer profiling package which enables teachers to identify a wide range of additional support needs through pupil, parent and teacher questionnaires. Another teacher referred to it by saying: "*I've been given a CD. Up till now I've used something produced by Highland, it's … now I can't think of it. I'd have to go and get it. I got it in a folder*" ISfL32H. The test referred to is 'Measadh Bogadh' which

was only mentioned by two respondents. "*It was D.J. Macleod who produced it. It's not specifically for rhyming. It deals with initial consonants, final consonants*" ISfL32H. "*In the past I've used a test that was produced I think in Highland Region and it was 'Measadh Bogadh' or something, I can't remember the name of it*" IPT37O. As this test was only mentioned twice in the 64 transcripts of interviews and questionnaires it can be given that it is not in general use perhaps for the following reason: "*I used that but I found that that was possibly more to do with children who were just not using Gaelic, more sort of a general language based thing*" IPT37O. One teacher from Western Isles mentioned the fact that: "*Highland Council have a similar test in Gaelic – 'Measadh leughaidh – deuchainn sgrùdaidh 2001, deuchainn sgrionaidh'*" QCT25WI, but this test is a reading test as described in Chapter 5.5 and not an assessment of phonological awareness.

Two responses referred to the phonics scheme: "*quite often what we've done with the way 'Facal is Fuaim' is at the end of a set of words we would do a phonics assessment with them*" ICT40aWI; "*we've got the little books from 'Facal is Fuaim' but there's no assessment for it*" ICT6H. Only two teachers made any reference to specific resources for assessing phonological skills: "*assessment of sounds – own materials*" QHT40WI, while another referred to "*only pictures I have made up myself to reinforce letters and blends*" QCT10H. In the absence of any formal testing, some teachers made up their own assessments although no great detail was given and no indication was given of which elements of phonological awareness were assessed: "*informal testing in class produced similar results*" QDHT35O; "*weekly in house checklists*" QCT26WI; "*own generated tests to see where the children are in their learning. All work is in Gaelic*" QCT35O; "*made up by class teacher and all in Gaelic*" QCT28H; "*I made up tests myself. It is really just as I'm going along*" ICT10H; "*I do kind of informal - not tests but things that would indicate where they are or where they should be*" ICT10H.

Many teachers did not identify weaknesses in phonological awareness through assessment but rather relied on their own judgement and experience as seen in the following comments: "*you would just get to realise pretty quickly who is not*

recognising sounds, who can't hear them" IPT44O; "*just through their lack of progress when it came to reading, that they weren't progressing and sort of using the skills with regard to phonics and not using that skill to progress with reading*" IPT1O; "*just by their lack of progress in reading, them not coming on as well as the rest*" ICT11O; "*just a general impression you would get, nothing specific set like 'we're going to take out the phonics assessment pack now'*" IPT44O; "*basically by checking spelling and certain words in their reading and writing. It's quite obvious you know if there's phonics mistakes*" ICT33aWI; "*basically through observation and listening. You know routine observation. You become aware of when a child is having problems*" IDHT46WI.

As discussed in Chapter 4.5, teachers who draw on their own observations and experience to identify "at-risk" poor readers, often miss the mark, according to Flynn (2000). Several teachers appeared to be using no form of assessment: "*just through class work. In small classes you're doing it* [phonics] *with them on a daily basis. Just a general impression*" ICT4WI; "*it was just the day to day activities and obviously just homing in on that particular difficulty*" ICT33WI; "*just through the normal course of reading and just through classroom use of phonics really*" IHT40WI; "*years of doing it. I'm very long in the tooth – a year to go to retirement!*" ICT19WI; "*I think probably day by day teaching in class. The teaching itself and through recognition of sounds within words and reading*" IPT41O; "*you pick up so much in the class but it was good to do it in a more structured way*" ICT4WI. This screening tool, developed by the researcher, is the first of its kind and further comments regarding its value follow under Teachers' Views on the Screening Test.

Four interviewees did not carry out any assessment themselves because: "*the Support for Learning Teacher would take them away and maybe assess them*" ICT11O; "*the specialist Support Teacher uses the Aston Index in English for all ages including Primary 2 and 3. This is a baseline assessment she uses before referring pupils for further investigation*" IPT1O; "*Learning Support normally do that sort of thing in conjunction with the Class Teacher. A Learning Support Teacher would probably do*

it with a pupil anyway but in English and I would get feedback from them" ICT17O. One Principal Teacher who had support for learning in school said: *"if you had a child who was struggling with reading and writing you would refer them to them and they did whatever tests they had but then with the infant Gaelic class those tests weren't in Gaelic"* IPT6O.

The two Support for Learning Teachers interviewed both lamented the fact that there are no equivalent Gaelic tests: *"I've been working with children who have been in Gaelic-medium but the tests are only in English, you know the dyslexia tests"* ISfL22WI; *"the trouble was that I didn't have an equivalent one in Gaelic"* ISfL32H. One teacher realised that the lack of suitable assessment meant that *"they had to wait until the end of Primary 3 and into Primary 4 before they were really tested to see if there was a dyslexic problem or whatever"* IPT6O. Research has however shown that a good deal can be done as early as Primary 1 and Primary 2 (Blatchford & Cline, 1992, 1994; Lindsay, 2004; Wilkinson et al., 1998). The role of a Support for Learning Teacher includes identifying and establishing the needs and long-term aims of some pupils. This can be carried out at an early stage through screening, and then detailed plans and short and long-term targets can be drawn up. The appropriate methods of intervention have to be established then the plans implemented. Activities and targets are continually monitored then the pupils are reassessed and the results are evaluated as is the whole process

MacLeod and MacLeod (2001, p. 13) interviewed Learning Support Teachers who, although aware of assessments developed for English, felt that *"the absence of a resource of equivalent substance and rigour in Gaelic was a source of frustration to them and raised concerns about equity in terms of entitlement"*. This was evident from comments made by teachers: *"I feel there is very little to aid those who struggle in this area"* QCT8H; *"there's nothing you can just lift off the shelf really"* IPT37O; *"none at the moment in Gaelic"* QPT1O; *"there's no tests. We just go by our experience if a child isn't performing well"* ICT30H; *"I haven't seen any specific tests"* ICT33aWI; *"there's been nothing used in the past in Gaelic. I don't use any tests at all"* ICT11O; *"there's no specific thing just what we've made up in school"*

ICT40aWI; *"I haven't seen any specific tests"* I4CTWI. This frustration undoubtedly makes teachers feel that they are not teaching as effectively as they could be: *"I've been struggling with working with children in Gaelic-medium where there's nothing"* ISfL14WI; *"I had one child there who we knew had problems but there don't seem to be any tests available for teachers to use to identify what areas they are finding difficulties with"* ICT30H; *"I have children in other schools in Gaelic-medium who actually have specific difficulties and there's just nothing"* ISfL14WI. Commenting on the assessment tool developed in this research, one Depute Head Teacher gave this advice: *"better copyright it quick; get hold of Stòrlann before somebody goes and makes a lot of money out of it!"* IDHT46WI.

It was interesting to note that a Primary Headmaster of a Gaelscoil (Irish-medium school) in County Kerry, who made contact with the researcher seeking dyslexia resources for bilingual pupils, stated that no support was granted for Irish language dyslexia even in Irish speaking areas of the country. By e-mail, he sought any evidence on whether a second language would complicate learning for a child with dyslexia. Similarly, Professor Fiona Lyddy, National University of Ireland, stated by e-mail, that there was no test of phonological awareness available in Irish, only the letter-sound relations test in 'Áis Mheasúnaithe sa Luathlitearthacht: Treoir ar Mhúinteoirí'.

Not only are assessments scarce, but support resources are too, as one teacher pointed out: *"I feel there is very little to aid those who struggle in this area. A Support for Learning pack or Additional Support Needs materials would be great but it's a huge job!"* QCT8H. One teacher in Western Isles described a school nearby where *"the Class Teacher has taken 'Toe by Toe' and translated it into Gaelic; taken the structure using the three ticks. It's the auxiliary that does it – the blends and that. It's been very useful"* ISfL14WI. The teacher in question had already mentioned this in her own questionnaire response: *"'Toe by Toe' – English version adapted to Gaelic by me and use with pupils who show signs of reading difficulty"* QCT29WI. 'Toe by Toe' is a book which is widely used in English medium schools and employs syllable division mainly with nonsense words as well as real words. The idea is that

if a child can read nonsense words broken into syllables then they can become more proficient at reading real multisyllabic words. It is difficult to imagine how this could be transferred to the Gaelic language as there are so many vowel digraphs, as in *cailleach,* as well as consonants that behave as vowels, as in *Raghnall* or change in sound depending what letters come before or after them as discussed in Chapter 3.7.

One Principal Teacher described another alternative when she had concerns about a child: "*I've had a child that I've been specifically concerned about then I've maybe had a word with the Educational Psychologist and they've sort of worked out a little bit with the child before me or a Learning Support Teacher*" IPT37O but there was no mention of any assessment carried out. "*Generally it's very much you've just got to find a way that suits the child and suits the provision*" IPT37O. It was surprising to find another Principal Teacher who stated that: "*a Psychologist is very reluctant to see a child until Primary 3 anyway*" IPT1O. "*And another thing that we're up against is a psychologist is reluctant as well to say whether it is because of doing an additional language that these difficulties occur or whether they would just occur anyway*" IPT1O. This backs claims, discussed in Chapter 4.6, by Deponio et al. (2000a) who found evidence of a reluctance to assess and label pupils in a bilingual setting. Their audit found that bilingual dyslexics were not being identified and suggested that the Learning Support Teacher rather than the Educational Psychologist might play a lead role. As there are now Masters level awards in dyslexia: "teachers through specialized training and consultancy can provide an effective means of identifying and managing dyslexic difficulties in the classroom" Deponio et al. (2000a, p. 30). This is particularly important in Gaelic-medium education as units/ schools are widely spread across the country and HMIE (2005) noted that "*in many instances, teachers reported that external support professionals had little or no expertise in Gaelic-medium education or the issues pertaining to it*".

8.3 Administration of Test

This section considers general comments about the administration of the screening test and discusses who would be the best person to administer a screening test to

pupils. It also looks at what stage teachers thought would be the most appropriate time to assess a child's phonological awareness and how it would be best to present the results of an assessment.

Although Class Teachers are no doubt familiar with the administration of National Tests, many teachers might not have been familiar with the format of the screening test used. Support for Learning Teachers and some promoted staff may have had experience of similar individual tests but, as previously explained, the screening test had been intended for use by Classroom Teachers. Seventy-eight per cent of teachers stated that the test was easy to administer and 16% stated that it was quite easy to administer (See Table 24, p. 214). Responses on the test administration given in questionnaires and interviews were generally positive: *"very straightforward – good instructions – folder layout made it easy"* IHT40WI; *"it was very helpful and easy to administer"* ICT11O; *"was very straightforward"* QCT11WI; *"was easy and pupils enjoyed doing it"* QCT10H. As well as written instructions on each subtest, a CD containing verbal instructions and a sample test by a teacher and pupil was sent to every school. *"It was very easy to administer, I hardly needed to listen to CD"* QCT2WI; *"the test was quite simple for a Class Teacher once you read up on it. It's important to read the instructions about it rather than dive in"* ICT33WI; *"a good indicator of potential problems – this was comprehensive but short and easy for the child to do"* QCT13O; *"it was very straightforward with good instructions. The layout was easy to follow and it quickly identified areas of difficulty"* IHT40WI; *"I think the more you do it the more au fait you are with it"* ISfL22WI. Sixty-seven per cent of teachers found the results informative (See Table 25, p. 214). Eighteen per cent thought that the results were informative to some extent.

Views were divided as to who would be best to conduct the test amid the interviewees. The majority of interviewees, almost eighty per cent, suggested that the screening test would be best conducted by the Class Teacher although two also thought that the Support for Learning Teacher, where available, could assist. Some Class Teachers commented: *"except for time, my first reaction would be the Class Teacher to carry out the test as the one who knows the pupils well"* ICT33WI; *"the*

children were comfortable with me doing the test" ICT6H; "*the children are more relaxed with the Class Teacher*" IHT40WI; "*the Class Teacher is the best person who knows the child and the child is more comfortable with that person and more likely to perform better*" IHT40WI. One Principal Teacher expressed her preference for Class Teachers to conduct the test as "*they obviously know the children best in terms of their learning*" IPT44O. Another two teachers believed that "*ideally a Learning Support Teacher would probably be the best person because they're more qualified and even have more time out of class to sit with a child*" ICT30H. One Support for Learning Teacher thought that ideally the Class Teacher would be best but that "*they often don't have the time and I found that in Support for Learning I have more time than they have*" ISfL22H. Two Principal Teachers suggested that it was difficult for a Class Teacher, especially with a large number of pupils, to administer the test to the whole class. They both commented that the Class Teacher would probably be able to assess one or two pupils about whom they had concerns. Here, knowledge is time related, as the more a teacher knows about phonological awareness and reading development, the less time is wasted and a knowledgeable teacher will be able to tell which children should be assessed.

There was no consensus between the interviewees about when it would be best to administer the test. Table 30, page 237, gives a brief summary of the preferences of the interviewees by teaching position. Only two thought that Primary 1 would be a suitable time to screen the children stating that they would have covered all the sounds in the phonics scheme 'Facal is Fuaim' by the end of January in Primary 1: "*I would say half way through Primary 1 once they've sort of done their initial sounds and some common words*" IPT44O. The Head Teacher felt that testing at Primary 2 would be a good time although the current Primary 1 children had attained much more than had been expected because of the amount of active learning used and she said: "*I think, you know, if it were that situation you could do it* [the test] *at the end of Primary 1 with a lot of children*" IHT40WI. No teacher appeared to be influenced by the practice in English medium schools of administering Baseline Screening to Primary 1 pupils.

Table 30. When would be the best time to give this test?

Group	*n*	End of Primary 1	Primary 2	Halfway through Primary 2	Primary 3	Primary 2 and Primary 3
Head Teachers	1	0	1	0	0	0
Depute Head Teachers	1	0	0	1	0	0
Principal Teachers	4	1	1	0	0	2
Classroom Teachers	10	1	1	3	2	3
Support for Learning	2	0	1	1	0	0
Total	18	2	4	5	2	5

The majority of teachers thought that Primary 2 was the best time to administer the test, either at the end of the session or half-way through the year. "*As English reading is generally introduced in Term 4 of Primary 3, the earlier the screening is done the better – probably Primary 2*" QSfL23H; "*I think Primary 2s could have coped with the test alright*" IPT41O; "*I suppose Primary 2 would be a good time*" IHT40WI; "*Primary 2 is perfect especially at that time before Christmas. Even now, after Easter the Primary 2s would be much better*" ICT10O; "*half-way through Primary 2*" IPT6O; "*maybe halfway through Primary 2*" IDHT46WI; "*maybe not at the end of Primary 2, maybe about Christmas of Primary 2*" ICT4WI; "*I think realistically, probably around the middle of Primary 2, when we did it. Maybe even the beginning of the third term of Primary 2. I think after a year and a half*" ISfL32H; "*I think probably the end of Primary 2*" IPT37O.

This Class Teacher justified her decision by relating it to the pupils' learning: "*Primary 2. They go through the phonics scheme now with 'Facal is Fuaim' in Primary 1 finished by end of January. Primary 2 you are just reinforcing everything they've been taught already in Primary 1*" ICT30H. Another teacher acknowledged the importance of teaching before assessment: "*a lot of pupils that are coming in are complete beginners and you have to do some teaching before you can test them. Probably… some of the Primary 2s found it very challenging. The end of Primary 2*"

ISfL32H. This teacher still opted for Primary 2 despite having concerns in Primary 1: "*Primary 2 most definitely because really about by the end of Primary 1 alarm bells are beginning to ring but to catch them early is the thing*" ISfL22WI. One Principal Teacher, however, thought that as a lot of the pupils were only aged six they were too young to give the answers of phonological awareness requested, such as syllable blending and phoneme deletion.

Four teachers stated that the test was completed well by most Primary 3 pupils but they did not say that it was completed well by all pupils. It helped to identify specific areas of weakness for a few Primary 3 pupils in these schools. "*I thought the Primary 3s did very well and I think it might have been too easy for some of them*" IPT41O; "*I did find the Primary 3s were a little bit more competent*" IPT37O; "*I found it slightly too easy for the majority of P3. Could maybe be extended for older pupils*" QCT10H; "*most of Primary 3 sailed through it*" IPT44O; "*the test was too easy for some P3 children*" QPT41O. However two teachers thought that the ideal time to test pupils would be Primary 3: "*I would probably say Primary 3 rather than Primary 2*" ICT11O; "*Primary 3 I think*" ICT19WI. One reason given for this choice was the lack of Gaelic at home: "*for them to have enough of a grounding in the Gaelic phonics and such like since they started Gaelic reading and until that is quite well established, it would probably be Primary 3*" ICT11O.

A number of teachers stated that the test would be useful in Primary 3 as revision having done it previously in Primary 2. In this way teachers would be able to measure the development of their pupils' phonological skills over a period of time. "*I think probably the end of Primary 2 but I thought that there wasn't any harm in using it in Primary 3 as well*" IPT37O; "*they would need to be taught their phonics first of all, probably Primary 2/ Primary 3*" IPT1O; "*I did Primary 2 only but I think it would still be valuable for Primary 3*" ICT27WI; "*Primary 2 probably but Primary 3 is a really good time to reinforce what you think yourself*" ICT33aWI; "*there wasn't a significant difference between Primary 2 and Primary 3*" IPT37O; "*just into Primary 2 and Primary 3*" ICT6O; "*it's good revision in Primary 3 too. Primary 2 definitely, but also in Primary 3 to consolidate*" ICT6O.

In the questionnaire, just over a half of the teachers thought that it would be helpful to use tables or graphs to represent the information gathered from the test results. A quarter thought that it would be helpful to some extent. Six teachers did not think it would be useful to use tables or graphs to represent information gathered from the results and four teachers did not respond (See Table 26, p.214). Three teachers preferred "*some form of 'at a glance' display which would show areas of strengths and weaknesses*" QDHT46WI; "*probably a pictorial profile*" QCT45H; "*maybe have an overall score with a profile showing areas of strength and weakness*" QSfL22WI. These teachers may not have appreciated that a graph is the same as a "*pictorial profile*" or "*at a glance' display*". One Head Teacher, who did not think it would be useful to use tables or graphs to represent information, said: "*not to me but maybe to others. Tables and graphs baffle me*" QHT18WI. Another Head Teacher's reason for not wanting a graph or pictorial representation was given as: "*one to one interaction was more useful*" QHT40WI.

The majority of interviewees expressed a preference for a graph to represent the results: "*graph form would be very useful*" QCT10H, but some teachers also said "*a table of norms would be useful*" ICT19WI; "*it would be useful to have a graph or tables with norms like Psychologists and Support for Learning Teachers use and you can see if he's above or below or in the middle*" IPT1O; "*results displayed in a graph or table would be very good*" IPT1O. An example of such graphs can be seen in Figures14 and 15 on page 195 and 196. The Centile scores are taken from the Tables of Norms for each subtest skill (Tables 6-14, p.192 - 194).

The next section gives more anecdotal evidence of teachers' opinions about the usefulness of the test and how teachers might make use of their results.

8.4 Teachers' views on the screening test

This section describes teachers' general views on the screening test including the length and time required to administer it to pupils. Teachers described how they

would use the results and came up with various suggestions for improvements to the test. Finally, they considered whether it was worth using in the future.

Fifty-six per cent of the teachers made further comments about the screening test. Some teachers commented on pupils' reactions to the test: "*the children didn't seem at all bothered by it anyway. They were absolutely fine with it – they didn't feel under any pressure*" ICT7WI; "*the children thoroughly enjoyed doing it. They didn't think that they were doing a test at all. They weren't aware of testing*" ICT6H; "*I felt it was a useful tool in a general sense and I like the fact that it gave me an insight that I otherwise couldn't have possibly had*" IPT37O; "*yes, I think it would be useful as a benchmark just to say, you know, it's evidence, it will tell us, independent of anything associated with any scheme that is out*" IHT40WI.

In the questionnaire, eighty-five per cent of teachers thought that the length of the test was good; thirteen per cent stated that the length of the test was alright to some extent. No teachers disagreed with the length of the test and two per cent gave no response (See Table 27, p. 215). Comments given included: "*length was fine as I only had four children in Primary 2 to test*" QCT25aWI; "*it was time consuming but worth doing*" QPT41O; "*easy to administer, but time consuming*" QCT45H; "*it was of the right length*" ICT11O. A Principal Teacher acknowledged that to get the best results each child had to be tested individually. While interviewees found the test itself straightforward enough to administer, there were also comments that made reference to the time required to administer the test to the children. This was most likely to be because teachers in Gaelic-medium may be unfamiliar with the baseline screening procedures involving one-to-one testing that are present in most primary schools. Another factor which impacts on a teacher's time in many Gaelic-medium classrooms is the high incidence of composite classes. The comments have been recorded below together with the responses from the questionnaire on test length. "*It took quite a long time to do. I suppose if you were only doing one or two children it would be OK*" IPT6O; "*I found it quite difficult time wise*" IPT11O. One Principal Teacher explained how she managed to administer the test to a large number of pupils: "*I was fortunate to have a student, which enabled me to take children out*

individually. Otherwise it would have been very difficult to find the time to administer" IPT44O. Another teacher commented "*It would have been easier to administer the test if I had been given time out of class*" QCT30H. One Principal Teacher, who was also the school's Support for Learning Teacher, stated that "*with a lot of children it was quite time-consuming to complete*" QPT38O.

In contrast to some previous positive comments on pupil reactions to the test, one teacher commented that "*because children had not been tested in this format before, they were worried about giving an incorrect answer. Therefore it took longer to administer*" ICT35O. Another Class Teacher thought that "*the length was alright – it was difficult to administer in a multi-composite class – because it had to be done individually*" QCT8H. One Head Teacher thought that: "*batch testing would have been better*" QHT14WI and another questionnaire comment stated: "*if the test could have been put on disk, say as a pre-recorded PowerPoint, it would have been a lot easier on the teacher!*" QCT25aWI.

To establish if enough information could be gained from the screening to enable certain programmes of intervention to be put in place, teachers were asked for their views on its effectiveness. The identification of weaknesses and the possibility of specific intervention planning were considered together in order to gain an indication of the teacher's knowledge of phonological awareness and its importance in the steps towards literacy. Ideally such a screening tool should enable specific intervention to take place and it was interesting to note that the Support for Learning Teachers all said that the pupils' results would be helpful in planning future intervention as can be seen in Table 28, page 215. In the questionnaire, 73% of teachers believed that the pupils' results would help to plan the next steps in their teaching. Sixteen per cent of teachers stated that results would help to plan next steps to some extent. Four teachers did not think it would help plan next steps but gave no reason and did not volunteer to be interviewed so it was not possible to find out why they did not think the results would help future intervention. Two of these respondents also gave no answers to all the open questions.

All interviewees thought that the screening test was a useful tool that could be used to plan specific intervention. Many teachers referred to the types of intervention that they would be putting into place. Responses included: "*we have used the results to help plan our language better*" IHT40WI; "*being able to provide programmes of work more to their needs as opposed to just general phonics lessons. Definitely good for planning next steps*" IPT44O; "*we used the results when planning language*" ICT40WI; "*I would take the mistakes, the weaknesses that I found and try to work on them*" ISfL22WI; "*It was quite good for me to find out what they could actually do. It has made quite a difference since I identified them and they've been working on it*" ICT10H; "*I think in terms of targeting support in an immersion class, which is difficult, that it [the test] would be very helpful*" IPT1O. Evidence of the usefulness of the test can be seen in the results of the test re-test in Chapter 7.9 where one school tested five pupils again after two months of intervention. The results of t-tests showed a significant increase in scores of phonological awareness following a period of intervention.

Two teachers felt that it would have been beneficial to plan specific intervention if they had had any pupils with difficulties; this was good to see that they acknowledged the test's potential even though the results showed that no pupils had difficulties. One Classroom Teacher stated that it helped her set homework: "*I was able to use that information for their homework and focus on their sounds going home*" ICT27WI. One Principal Teacher went on to describe how she would use the results to discuss the teacher's use of the phonics scheme – when and how often it was being used in the class. Another Principal Teacher, who already used an English test, said: "*I think it would be a very helpful tool alongside an Aston Index where you could look at Gaelic phonics*" IPT1O.

In the questionnaire, almost half of the teachers said that they did not want to see any changes made to the test (See Table 29, p. 215). Twenty out of the forty-five respondents thought that they would like to see changes made to the screening test. Some suggestions made by teachers were mainly print related such as the inclusion of "*sight-reading CVC words and simple blended words*" QCT13O; "*a brief test of*

sight vocabulary, e.g. agus, tha, bha etc." QPT37O. Other suggestions for improvement included: "*consonant blends e.g. sl as in slat, br as in briogais*" QCT19WI; "*perhaps some helpful examples for the letter recognition blends*" QHT14WI; "*future difficulties- dh, mh, ch etc. with vowels e.g. adh, eadh, amh, ach, each, aidh, etc.*" QPT20O. One Class Teacher requested "*a similar phonological screening test suitable for the middle and upper stages would be helpful*" QCT30H. Some of the changes included four requests to remove the Rhyme Production section, two requests to remove polysyllabic repetition, two requests for the removal of Initial Phoneme Deletion and one request for the exclusion of syllable blending. When the record forms of pupils' results for these schools were examined, several children performed poorly on these particular subtests. One Class Teacher thought that a test that showed "*differentiation between Primary2 and Primary3 and also between children from Gaelic and non-Gaelic speaking backgrounds*"QCT9WI would be welcome. Two teachers thought that some extra examples were necessary before starting each subtest: "*perhaps more examples for the children prior to each section's assessment as some children didn't seem too sure of what was being asked of them*" QCT27WI.

As forty-three of the teachers did not request more examples before each item this could be reason enough for not adding extra examples. While it was good to hear that half of the teachers were happy with the test as it is, there are clearly areas that some teachers would like to see covered by some form of assessment. Some of the phonic sounds suggested could be tested in a further, more advanced assessment taken in the middle school. In addition, a sight vocabulary test of common words could be given together with some regular words which could give teachers some indication of a pupil's reading age if the results were standardised.

Teachers gave their thoughts on the future use and relevance of the test as a diagnostic tool to enhance attainment through early intervention. It was heartening to hear the teachers' responses to this test, as it is the first of its kind. Positive responses were received from all interviewees, such as: "*has given me a very clear*

idea of pupils' abilities in pulling sounds together" QCT10H; "*it made me home in on the areas of weakness*" ICT33WI; "*thought test was very good – covered good variety of areas and tested different skills. Thorough*" QCT11O; "*found it very helpful and useful as an assessment*" QCT42H. Three or four teachers have since contacted the researcher requesting that the assessment be returned to them as demonstrated by one teacher who said she would use it "*certainly. I thought it was really good and I would use it. We are very interested if you publish it. You must send us a copy of whatever you sent us before*" ICT33aWI.

Seven interviewees stated that the screening test had been very helpful and the two Support for Learning Teachers both agreed that it had identified weaknesses and that they would "*try to work on them." "It has helped already with several children*" ISfL32H. Other respondents believed that the test was a good general indicator of where problems might lie. "*Yes I think it would be useful as a benchmark just to say, you know, it's evidence, it will tell us, independent of anything associated with any scheme that is out*" IHT40WI. Chapter 4.3 discussed the importance of using assessment information to monitor pupils' progress and plan next steps in learning and this Principal Teacher thought that this assessment could assist teachers who need to gather a wide variety of evidence of progress and achievement: "*I definitely think there is an area for it, absolutely, to help with identification, to pinpoint more accurately where difficulties lie in the initial stages before referring on*" IPT1O. Another teacher said that: "*it's good just to have something to back up what your gut instinct is, you know, if something is telling you something is not right here*" ICT30H. One Head Teacher thought that "*it would be quite a good exercise as a check-up test and then using it with individual people whoever had a bit more of a problem with it*" IDHT46WI.

From a manager's perspective it had an added benefit: "*It would help maybe either to back up or to reinforce a teacher's idea or indeed maybe the opposite where a teacher thinks somebody is doing well and somebody else doing the test gets a different perspective*" IDHT46WI. One Principal Teacher had conducted the tests herself and afterwards felt the need to speak to the Class Teacher about her

methodology. She appreciated the opportunity to objectively assess the pupils as *"I don't know these children the way their Class Teacher does"* IPT37O. One Depute Head Teacher described three different ways in which the test could be used: *"I wondered about it being done in sections . . .   broken up into different elements at different times . . . and different aspects of phonics you're looking to test"*; *" it's something that might be included in its entirety as an end of year sort of whatever, in case there's somebody slipped through the loophole"*; *"but as an ongoing thing, as I say, it could be done with individual pupils, with groups, or with individual sections"* IDHT46WI. This is exactly the way in which *A Curriculum for Excellence* believes that teachers will have autonomy in assessment in the classroom and this assessment can provide the evidence to support teachers in doing this.

This assessment will enable a teacher to review, reflect and respond to the evidence as required by *A Curriculum for Excellence*: "Assessment information should be shared and discussed with the learner, parents, other staff as appropriate, and partners involved in supporting learning" (Scottish Government, 2010, ¶15). Some comments were made on how the test could help teachers give feedback to parents about what they need to do to improve and how parents can help. *"You can have that test to explain to a parent, you know, that we've done this test. It just gives you more backup"* ICT30H. *"It's a good thing to show parents as well, to say exactly where they're failing or this is exactly what they need addressed, what they should work on rather than just generally saying their phonics is poor"* IPT44O. This Principal Teacher described the present system of subjective opinion as *"wishy-washy for both the teacher and the parent"* IPT44O.

Clearly teachers have valued this assessment as it has been created to try to improve the learning and teaching that goes on in the Gaelic-medium classroom. However they did highlight some difficulties. Rhyme is one area of phonological awareness that appears to be difficult for young learners of Gaelic to make use of, although some pupils will have acquired some level of rhyme awareness if they have attended English-speaking nursery. Early experiences watching pre-school television programmes may also have an influence. The issue of fluency appeared to be

something that teachers were unsure about and this will be discussed in Chapter 9. The choice of assessor is important and there were some differences of opinion but the majority of teachers agreed that the Class Teacher could administer the test and this had been my intention when developing the assessment. The time taken to assess individuals is something that most teachers were not used to and this was something of a difficulty in small composite-age classes. However, if the assessment were to become part of ongoing practice, teachers could plan for an assessment period in advance in the same way that English-medium teachers plan for baseline screening.

Chapter 9: Conclusion

This study is important because all children have a right to receive an education appropriate to their needs. As Gaelic-medium education is so new, children should not be disadvantaged just because there are no methods of assessment of phonological awareness in Gaelic yet. A number of difficulties exist when developing a literacy assessment for a population that is quite unusual in education. Pupils in Gaelic-medium education usually have had exposure to two languages at levels which vary considerably between home and school. Personal experience has proved this to be the case both from a parental perspective and from that of a Gaelic-medium teacher.

The screening tool, devised for this research, should assist teachers to confidently identify weaknesses in phonological awareness in the Gaelic-medium classroom as demonstrated by the response from teachers and by the results themselves which have been used to create tables of norms. It should provide a summary of what learners have achieved and can be used to consolidate their learning. The results can contribute to planning the next stages of learning for individual pupils (see Appendix XVII). Evidence from the test-retest results demonstrate the screening test's ability to identify weaknesses which, once identified, can be improved through intervention. Results from the test could be used to give assurance to parents, teachers and others that progress in learning is developing in line with expectations. It can also be used to inform future improvements in learning and teaching, as suggested by some of the interviewees in promoted posts. If this test was to be made available to Gaelic-medium teachers in the future, it would be my intention to include more details of the background for each subtest, tables of norms and a record sheet. A discussion and analysis of performance section providing information for planning intervention would be included together with suggested training activities to be practised. When making an accurate assessment of a child's needs one has to consider the full range of relevant options for action. The evaluation of options will depend on each child's unique circumstances and the decision-making incorporates an element of consultation with colleagues and other professionals. The decision-making is based

on experience and analysis, echoing Schön's view that "a practitioner's repertoire includes the whole of his experience insofar as it is accessible to him for understanding action" (1991, p. 138). Good teaching involves the application of research findings and I have spent three years on the planning and data collection for this study and subsequent years were spent on the analysis, validity testing, and writing up as a thesis while working full-time in a primary school.

Part of my role in school as a Support for Learning Teacher is to act as a source of advice to colleagues on particular aspects of inclusive teaching and additional support needs and applying existing knowledge to the relatively new field of Gaelic-medium education is an excellent way of doing this. Finn (2003, p. 13) believed that "teachers will not only provide a model of pedagogic excellence but will also offer valuable assistance and support to colleagues by the practical demonstration of their skills and expertise". Taking positive action is an important aspect of personal and professional action according to SCCC (1996). It involves being prepared to take risks and to make a commitment to do something to achieve the results that you want. The ability to use one's initiative and work independently is particularly important to teachers who often take on a role from interest or commitment to professional education. The fact that, at the time of this study, I was not currently a Gaelic teacher, but had had experience of teaching Gaelic-medium in the past, enabled the teachers to relate to me just as a researcher and similarly I was able to adopt an unbiased objective approach to the respondents.

I undertook this study in order to assist colleagues in Gaelic-medium education. This research was well received by teachers in Gaelic-medium schools and there was a high response rate. Many respondents expressed an interest in the results. Several commented that they had been given the opportunity to gain a closer insight into their pupils' learning through the process of conducting the screening test. They felt that it was an aid to targeting support in an immersion classroom. Several commented that it had made a difference to their teaching since using the test and being able to identify specific skills for reinforcement. This would appear to answer the first research question and also the question asked in Chapter 6.12, page 127 -

can the data obtained be used to make significant changes in instruction by making teaching and learning more focused and effective? Requests for its return to schools have been made as well as interest in any future publication. The test is easy to administer, the scoring clearly stated and any Classroom Teacher can administer it given that the assessment of an individual' s progress is a key strand of the new Curriculum for Excellence. It could provide CPD opportunities for staff who previously may not have appreciated the importance of identifying specific phonological awareness skills. As mentioned earlier, this research has highlighted a lack of understanding of phonological awareness and confusion with phonics. It is important that testers are skilled in phonological awareness and the range of skills involved in order to make good use of the test.

In terms of contributing to the literature on bilingual education, this research has demonstrated that pupils in an immersion setting can be assessed for phonological awareness in the classroom by the Class Teacher using an assessment entirely in Gaelic. I was unable to find any similar test of phonological awareness in Irish or Welsh but the Gaelic screening test might have a place in the Gaelscoil where Irish-medium classes have a similar mix of learner and fluent speaker population. The two languages are very similar and minimal adaptation would be needed for its use there. I believe it is important that Gaelic-medium education in Scotland has a robust framework in which parents and teachers alike can have confidence that the education children will receive is as good as, if not better, than that in English-medium schools. The nearest assessment that might be useful to teachers is the Irish assessment tool which looks at reading, writing as well as sounds in words.

In conducting this research, I sought to ascertain whether or not it would be possible to measure a pupil's phonological awareness using Gaelic. In terms of the role of Gaelic as a medium for assessment in an environment dominated by assessment resources in English, I felt it was important to try to provide something to meet the identity needs of Gaelic language speakers. Morrison (2006) questioned what the culture of Scotland should consist of and how much language difference plays a part as a marker of identity. The Anglicisation of so many aspects of Highland life over

the years, including education, has led to the need to actively promote the 'Gaelic economy' (Chalmers & Danson, 2006) in order to bolster Gaelic, which is increasingly under threat year on year. With the current steady increase in the total number of primary school-age Gaelic-medium education pupils (University of Strathclyde, 2009) and significant expansion in Gaelic publication, especially in children's literature and educational resources, it seems fitting that this positive contribution to enhance pupils' attainment should be made. The evidence gathered shows that it is possible to measure the phonological awareness of a child receiving Gaelic-medium education irrespective of whether that child is a learner or fluent speaker of the language. By using the screening test devised specifically for pupils in the early stages of Gaelic immersion education, teachers can identify those who are most likely to have difficulty in learning to read and can put intervention strategies into place at an early point. There had been no previous research specifically about phonological acquisition in Gaelic; this study created an innovative approach to assessing pupils in Gaelic. If this test were to be made available to teachers it would be the researcher's intention to include more details of each subtest, test interpretation similar to the example in Appendix XVII as well as the tables of norms and a record sheet which would show a summary profile of performance and suggestions for intervention activities.

One of the difficulties experienced in creating this assessment tool was the lack of previous research, especially since Gaelic-medium education is relatively new. Also the schools are spread widely across Scotland which meant that everything had to be sent by post and interviews had to be conducted by telephone. Not all teachers demonstrated excellent knowledge of phonological awareness, as discussed in Chapter 8.1, and some had a tendency to confuse phonological awareness with phonics. The choice of assessor posed rather a problem as typically in English-medium schools this type of test might be conducted by Support for Learning Teachers or Educational Psychologists. I knew that in most Gaelic-medium schools and units the Class Teacher would be the most likely person to administer the test and it was created with that in mind. However, this imposed a time factor for some teachers and suggestions made by teachers, such as using a student, were helpful.

An area that has been highlighted in this research has been the difficulty with rhyming in Gaelic. Resources like the online '*Failte gu Fuaimean*' could certainly help to fill the gap in an area that is not easy to find suitable materials for young learners of the language who do not have a wide vocabulary. None of the teachers interviewed used this resource. As previously described, rhyme does not behave in the same way as in English; nonetheless, it is possible to create nursery rhymes and short poems or songs such as the online resource. Further research could examine the role of rhyme in young learners of Gaelic and might also examine the possible effects of training in phonological awareness in Gaelic. Ideally this would take place at the pre-school stage, however, as this study shows that about a quarter of pupils did not attend Gaelic-medium nursery, this would not be carried out in Primary 1.

Fluency and a pupil's knowledge of the Gaelic language appeared to give teachers some difficulty. As noted, teachers were undecided about differences in performance between fluent Gaelic speakers and learners. Nevertheless, the means of the total test scores for phonological awareness showed a significant difference between learners and fluent speakers. Some pupils who had a lot of Gaelic were deemed to be learners by some teachers and fluent by others. It did not seem to make a difference whether pupils lived in a predominantly Gaelic speaking area or not. In order to gain a more accurate distinction between learners and fluent speakers, any future research could perhaps involve some criteria to define fluency. As described in Chapter 3.4, Morfidi and Reason (2000) claimed that an accurate assessment can be made once a degree of competence in oral language is established. Issues of pupils' fluency arose in this study and it would be appropriate for some further investigation into how teachers classify fluency in their pupils. This could be linked to how Classroom Teachers in general are able to identify levels of fluency and accuracy in non-native speakers of English, as accuracy in conversational spoken English does not necessarily mean the same level in academic language proficiency. Reference has already been made in Chapter 2.5 to the five stages of English language development by Learning and Teaching Scotland (2005) and these stages could be used in the context of Gaelic-medium education. Conversational fluency usually takes two years

to gain and native speaker proficiency or cognitive/academic competence (CALP) usually requires at least five years. It would be worth finding out about the studies being undertaken at the Centre for Research on Bilingualism (Economic and Social Research Council, University of Wales) on the interactions between a bilingual's two languages especially if an assessment tool is being devised for bilinguals.

Further investigation into the identification of dyslexia in children who have been learning Gaelic for three or four years could be considered. A longitudinal study of pupils in Gaelic-medium education considered to be struggling with literacy acquisition alongside those having no difficulties would help the provision of suitable identification tools. A further study could measure future progress of pupils tested in this research as discussed in Chapter 6.12. There is a great deal of information available for teachers in English speaking schools including diverse and detailed assessments but none exist in Gaelic. One Principal Teacher summed this up well when she said: "I think we are in severe need of guidelines, the teachers as well of how to address learning difficulties in a second language"IPT44O. This research has demonstrated that a wide variety of practice exists within Gaelic-medium schools, as well as within individual councils. There appears to be little guidance form Psychological Services within councils which makes a Classroom Teacher's job more onerous. In the majority of primary schools in Scotland there is a teacher who will be able to identify a child with dyslexia and give advice to Classroom Teachers. As part of the Dyslexia Friendly Schools Scheme many schools have changed their practice to accommodate dyslexic pupils by using appropriate teaching methods and ensuring that all school environments are dyslexia friendly. It is important in terms of inclusion that this practice is available in all classrooms in Scotland irrespective of the medium of teaching.

 One of the strong requests that came out of this research was the need for informed resources created specifically for pupils with additional support needs as up until recently this has been wanting in Gaelic-medium education. The scarcity of materials that teachers can use once difficulties have been identified was highlighted in this study. As words are harder to break into onset and rime in Gaelic, teachers

would need to be given specific examples to work on in order to help their pupils. It is good to see that foam phonic sound letters have recently been produced for Gaelic pupils but there still need to be further resources created for use in the early stages of Gaelic-medium education. Existing resources can be adapted as can be seen from the teacher who had translated 'Toe by Toe' into Gaelic, for use by older pupils.

Bòrd na Gàidhlig have pledged to support and participate in the multi-partner Gaelic Research Network proposed by the UHI Millennium Institute and have identified several research priorities including: "a comprehensive study of the Gaelic linguistic competence of pupils and students undertaking Gaelic-medium studies"; "up-to-date research study on the attainment of 5-14 Gaelic-medium pupils" and "a comparative study of international immersion methodologies and teaching methods, with recommendations on the introduction of Gaelic literacy skills in the Gaelic-medium setting" (Bòrd na Gàidhlig, 2007, p. 38). My research has highlighted the differences in phonological awareness assessment results for pupils with different linguistic competence but has also proved that it is possible to measure the phonological awareness of both learners and fluent speakers of Gaelic. I have also considered assessments of pupils in bilingual settings to find out what phonological skills are suitable for assessment. I have created a tool which will enable pupils to be 'caught' at a crucial time in their education allowing suitable intervention to be put in place. Having been involved in protecting Gaelic-medium education from early days, I feel my research can help to develop and strengthen it at a time when pupil numbers are growing.

Glossary

Analogy – the process by which words are formed using a parallel pattern.

Centiles – used to describe percentile rankings from comparative scores of a similar population.

Coding – the process of analysing data.

Concurrent validity – the extent to which test scores relate to other measures of performance by the same individuals.

Construct validity – the extent to which the items in a test, developed from theory, measure what the theory says they do.

Content validity – the extent to which the test items assess the content being taught.

Diagnostic tests – tests used to identify strengths and weaknesses.

Digraph – two consonants or two vowels when side by side make one sound.

Diphthong – two vowels together which slide from the first to the second making one sound.

ESL – English as a second language

Grapheme – the written representation of a sound.

Grounded theory – a theory developed from a corpus of data which is analysed to examine the interactive nature of circumstances or events.

Less able – a term to describe pupils who experience difficulties with the curriculum.

Metalinguistic – the ability an individual has to consciously think about language and how it is used.

More able – a term to describe pupils who have above average ability in a specific area of the curriculum.

Morpheme – the smallest meaningful linguistic unit of meaning.

Morpho-syntax –the set of grammatical rules in a language e.g. word order, the system of internal structure of words; the way in which words are put together to form sentences.

Multi-sensory – the simultaneous use of ears, eyes, hands and mouth to use all the pathways to the brain when learning.

Onset – the initial letter or cluster of letters in a word.

Orthography – the study of correct spelling according to established usage.

Phoneme – the smallest unit of sound.

Phonemic awareness – the ability to discriminate individual sounds that make up words.

Phonics - the sound-letter correspondence used in teaching reading and spelling.

Phonological awareness – the ability to segment words orally; the awareness of units of sounds which may be phonemes but may be rimes, onsets or syllables.

Phonology – the study of the sound system and speech sounds; the rules governing the combining of sounds in a language.

Phonotactics –the permissible structures of syllables, vowel sequences and consonant clusters in a language.

Predictive validity – the extent to which an assessment can predict future performance.

Reliability – the extent to which the outcomes of a measurement remain unaffected by variations in test conditions.

Rime – the final part of a word which contains a nucleus (vowel) and coda (any consonants closing the syllable.

Screening – the investigation of a number of people in order to identify a particular problem.

Spoonerism – an error in speech by transposing or jumbling letters in words.

Standardised test – a test that compares a child's performance with the performance of a large group of similar children of that age from around the country

Svarabhakti – the insertion of a vowel sound into a consonant cluster.

Syllable – a word or part of a word with one vowel sound having consonants clustering around it.

Syncope – loss of sounds from the middle of a word.

Test-retest reliability – the extent to which the data collected on two different occasions under the same conditions agree.

Validity – the extent to which a test measures what it claims to measure.

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Appendices

Appendices

Appendix I:

Gaelic sounds

Broad sounds

a	ach, aran, baga, cat, dad, fada, math
à	fàg, bàta, bhàta, càl
ao	aon, caol, taobh
o	dol, dona, doras, loch, pocan
ò	còta
ò	mòr
ù	cù
u	cupa, gu, luchag, tunnag
ua	fuar, luath
b	baga, bàta, bogsa, bò, bùth
bh	bha, bhàn, bhàta, bhogsa, bhòrd; cabhag, taobh
c	cadal, cadalach, caol, cat, càr, còta, cò, cù, cùm, cupa, cur car
ch	chadal, chàr, chùl, chùm; ach, loch, luchag
d	dad, dol, dona, doras; fada
f	fàg, fuar
g	gu, gus; baga, fàg, luchag
l	làmh, latha, loch, luath, luchag; càl, caol, dol
m	math, mòr, muc; chùm
mh	mhòr
n	aon, dona
p	pana, pocan; cupa
r	ròn, ròp; doras, fuar, mòr
s	sona, suas; doras
t	taobh, tunnag, turas; bàta, cat, còta
th	tha; bùth, latha, luath, math

Examples taken from the BBC 'Fàilte gu Fuaimean' Notes for Parents

http://www.bbc.co.uk/scotland/alba/foghlam/failtegufuaimean/notaichean_en.shtml

Slender sounds

ai	aiste, splais
ài	àite, càil, càise, càite
aoi	saoil
è	dè, glè, tè
e	e
ea	ceart, dearg, each, feargach, gheal, ghealach, seacaid, seachad, seachd
ea	cearc, deasg, fear
eà	ceàrr
ei	bheil, bheir, deiseil, eile, leis
èi	chèile, èist, fèis, gu lèir, tèid
eo	deoch, seo
eò	beò, ceò, ceòl, cheò, feòrag, gu leòr, neònach
eu	bheul, feuchainn, feur
eu	creutair, feumaidh
i	a-nise, fichead, idir, ise, ite, mise, nis, pinc, piseag, ri, ris, silidh, sin, sinc
ì	dìreach, tì, tìde
ia	biadh, iarraidh, iasg
io	briogais, mionaid
ìo	bìogail, pìos, sgrìobhadh
ìo	shìos, sìos
iu	diugh, siud
òi	còig
oi	coin
uai	fuaimean, uair, nuair
ui	chuir, cluiche, cuideachd, duine, fuireach, fuirich, luideach, thuirt, uile, ruith, shuidhe, shuipear, thuit, uinneag, uisge
ùi	dhùin, dhùisg, sùil

Examples taken from the BBC 'Fàilte gu Fuaimean' Notes for Parents

http://www.bbc.co.uk/scotland/alba/foghlam/failtegufuaimean/notaichean_en.shtml

Consonant blends

bhr	bhris, bhrochan, bhrot
bl	blasta, blàth
br	bragadaich, brèagha, briogais, briosgaidean, brògan, brot
chd	bhochd, sneachda
chl	chlach
cl	clach, cluiche
cn	cnàmh, cnap, cnoc
cr	craobhan, crathadh, creag, creutairean, crosta, crùbag, cruaidh; acras
ghl	ghlanadh, ghranaidh
gl	glagadaich, glan, glana, glasa
gn	cagnadh
gr	greannach, grianach, grod
gs	bogsa
lbh	dealbhan, falbh
lg	tilgeil
nt	pheant
pl	plèan
pt	sgapte
rbh	gu dearbh, searbh
rch	dorcha
rd	àrd, bhòrd, chòrd, òrd, òrdag
rg	dearg
rm	gorm
rs	tùrsach
rt	cairt, cuairt, dhòirt, dòrtadh
sg	sgeul, sgian, sgiathan, sgìth, sgoil, sgòth, sgòthan, sguab, sguir
sg	faisg, iasg, dhùsgadh, measg, rùsg, rùsgadh, uisge
sgr	sgrìobadh
shr	shrac
sl	slaman, slaod
sn	snàmh, snàth
sp	spòg, spòrs
sr	sràbh, sracadh, srann, sreap, sròn
st	aosta, caisteal, crosta, ròst
st	stad
tr	tràigh, trang, trod, truinnsear

Examples taken from the BBC 'Fàilte gu Fuaimean' Notes for Parents

http://www.bbc.co.uk/scotland/alba/foghlam/failtegufuaimean/notaichean_en.shtml

Appendix II:

Map of Local Authorities with Gaelic-medium schools
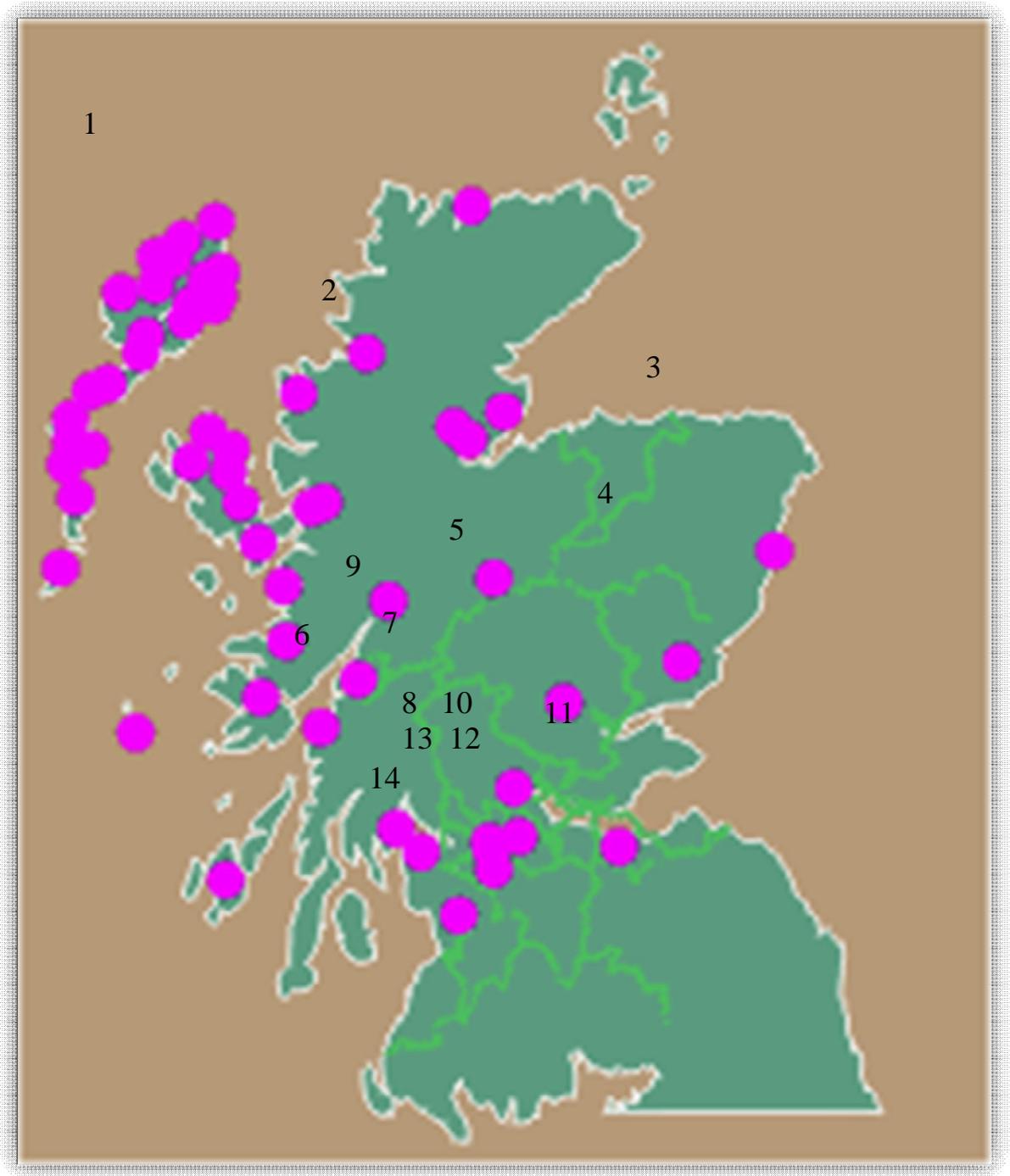
Adapted from Gaelic4parents.com
Map of Local Authorities with Gaelic-medium Schools

1 = Western Isles	6 = Argyll & Bute	11 = Edinburgh
2 = Highland	7 = Stirling	12 = South Lanarkshire
3 = Aberdeen City	8 = East Dunbartonshire	13 = Glasgow
4 = Angus	9 = Inverclyde	14 = East Ayrshire
5 = Perth and Kinross	10 = North Lanarkshire	

Appendix III:

Some significant dates in the recent development of Gaelic Education

SOME SIGNIFICANT DATES IN THE RECENT DEVELOPMENT OF GAELIC EDUCATION

1985 First Gaelic-medium provision opened. Slow but steady increase in numbers of pupils in primary classes to over 2000 pupils in 2004-2005.

1992 Council of Europe: Charter for Regional or Minority languages. Signed by UK government in 2000 and ratified in 2001 re Gaelic in Scotland.

Gaelic 5-14: National Guidelines (Curriculum and Assessment). Similar form and content to English Language Guidelines.

1994 Provision for Gaelic Education in Scotland: Report by HMIE. Task group set up in 2003/2004 to revisit this report.

1995-97 SCCC 5-14 Exemplification materials issued.

1997 Pre-school Curriculum Guidelines and exemplification materials.

1999 Stòrlann established.

SEED Research Unit with SCILT Report: published on *The Attainments of pupils receiving Gaelic-medium primary education in Scotland.*

2000 Standards in Scotland's Schools etc. Act – expectation/ obligation placed on education authorities to include provision and development of Gaelic-medium education in their improvement plans.

2002 Ministerial Action Group on Gaelic reports: *A Fresh Start for Gaelic.*

The new National Priorities for School Education specifically highlight Gaelic.

Bòrd na Gàidhlig established.

A'Chuisle: conference for Gaelic-medium primary teachers organised by HMIE.

2003-04 Draft Gaelic Language Bill consultation phase attracted 3000 responses.

2004 A' Chuisle 2: conference for Gaelic-medium primary and secondary teachers organised by LTS with commitment to further annual events.

GLPS Conference in Stirling University. Presentation of evaluation and findings from five education authorities.

Gàidhlig air-loidhne (Gaelic online) established.

Plans for dedicated Gaelic secondary school in Glasgow supported by SEED.

Guidance issued to education authorities about their obligations for Gaelic education under the 2000 Act.

Virtual Gaelic-medium Secondary project established.

2005 Gaelic-medium Teacher Recruitment and Supply Action Group established.

The Gaelic Language Bill completed its Parliamentary stages.

HMIE (2005)

Appendix IV:

Ceuman ann an ionnsachadh na Gàidhlig: Clar-measadh (bogadh)- Fluent speakers checklist

CEUMAN ANN AN IONNSACHADH NA GAIDHLIG: CLAR-MEASAIDH (BOGADH)

Cànan	Measadh	
Tha/a bheil?/chan eil mi ☐ a' sgrìobhadh ☐ leughadh ☐ peantadh ☐ dèanamh dealbh ☐ leum ☐ coiseachd ☐ ruith ☐		
Tha mi trang ☐ sgìth ☐ mòr/beag ☐ toilichte ☐ fuar/blàth/leth ☐ snog/grànda ☐ Tha e dubh, geal, buidhe, dearg, uaine, liath, gorm, donn, glas, ruadh ☐		
Mi ☐ thu/tu ☐ e ☐ i ☐ sinn ☐ sibh ☐ iad ☐ mise, thusa ☐		
Bha/an robh?/cha robh mi a' sgrìobhadh Bha mi trang.		
Bidh/am bi?/cha bhi cleasachd ann ...		
Bi, na bi ☐ Dèan ☐ Cuir ☐		
'S e/an e?/chan e ['S e] sin ... An e sin ...? 'S e D. a tha an sin. 'S e post a tha ann. Seo ...		
Chuir/an do chuir?/cha do chuir ☐ Ghabh ☐ thuit ☐ dh'ith/ol ☐		
Rinn ☐ chaidh/an deach?/cha deachaidh ☐ chunnaic/am faca?/chan fhaca ☐ chuala/an cuala?/cha chuala ☐		
Thug, bheir, ghabh, fhuair		
Ni/an dèan?/cha dèan Chi mi thu		
Dè? ☐ Cò? ☐ Ciamar? ☐ Carson? ☐ Cuin? ☐ Càite? ☐		
Tha mi dol a chluiche ☐ Tha mi a' dol a dhèanamh dealbh ☐		
Am faod mi cluiche?		
Feumaidh mi falbh.		
Chan urrainn dhomh snàmh.		
Am faod mi dealbh a dhèanamh?		
Feumaidh tu còta		
A' smaoineachadh gu bheil ...		
Tha mi gad fhaicinn.		

① a' tuigsinn
② a' cànadh

Created by Glasgow Gaelic Primary School, 2000,

Appendix V:

Test of Phonological Awareness
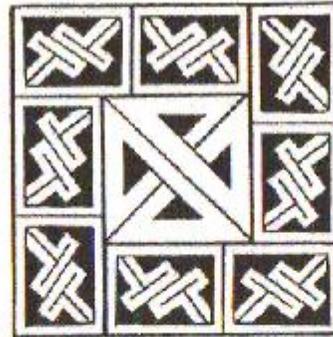
Gaelic Phonological Screening Test

F. Lyon

13

Seall air an dealbh seo – ceann.

Seo trì dealbhan eile. Dè am fear aig a bheil fuaim coltach ri ceann – grian, peann no màthair?

Peann. Tha sin ceart. Feuch thusa a-nis.

Eisimpleir 1
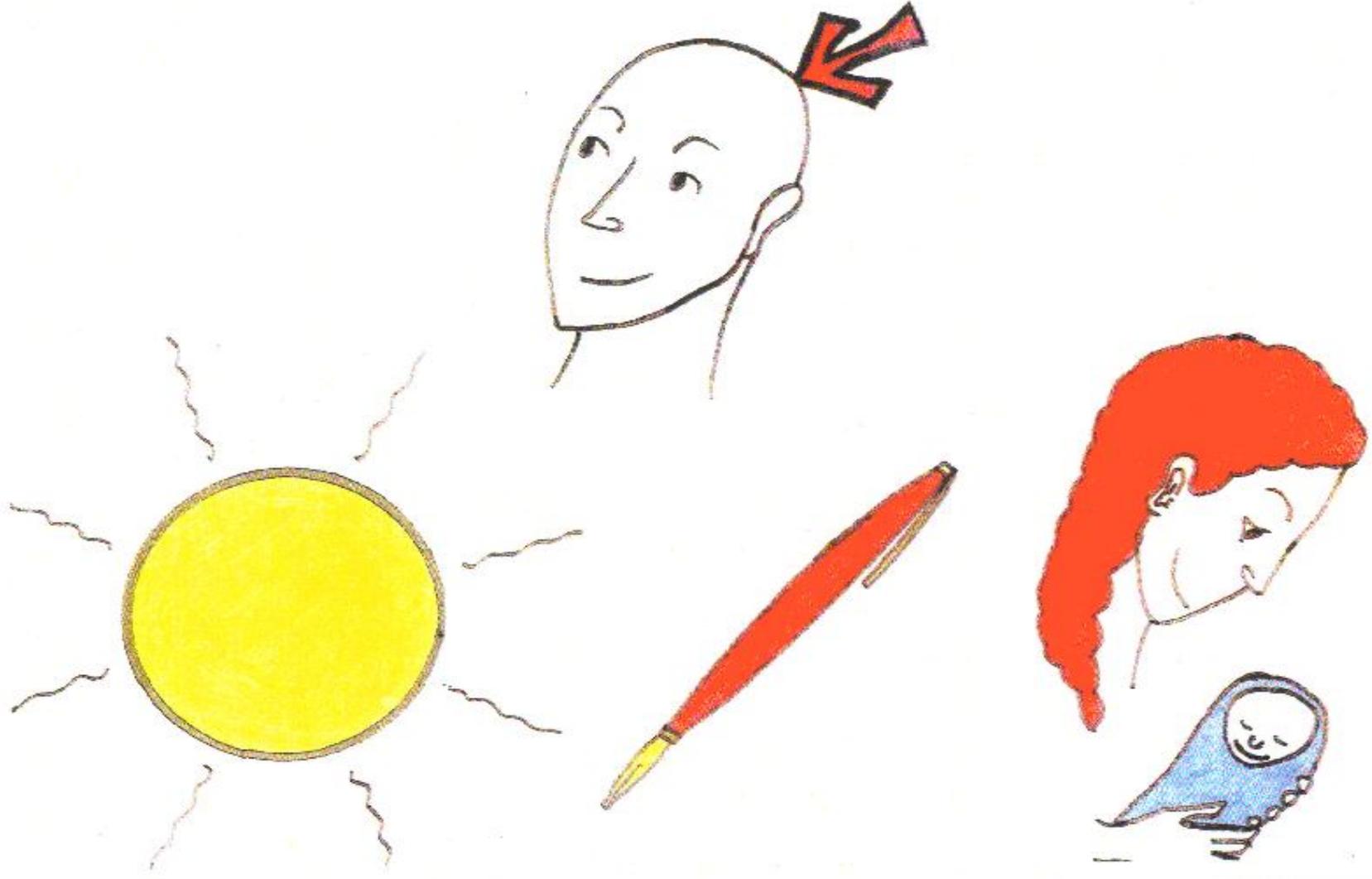
Seall air an dealbh seo – dhà.

Seo trì dealbhan eile. Dè am fear aig a bheil fuaim coltach ri dhà – naoi, là no luch?

(là)

1.1
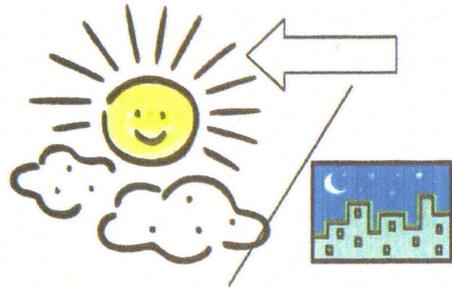
Seall air an dealbh seo – òrd.

Seo trì dealbhan eile. Dè am fear aig a bheil fuaim coltach ri òrd – ball, bòrd no tanc?

(bòrd)

1.2
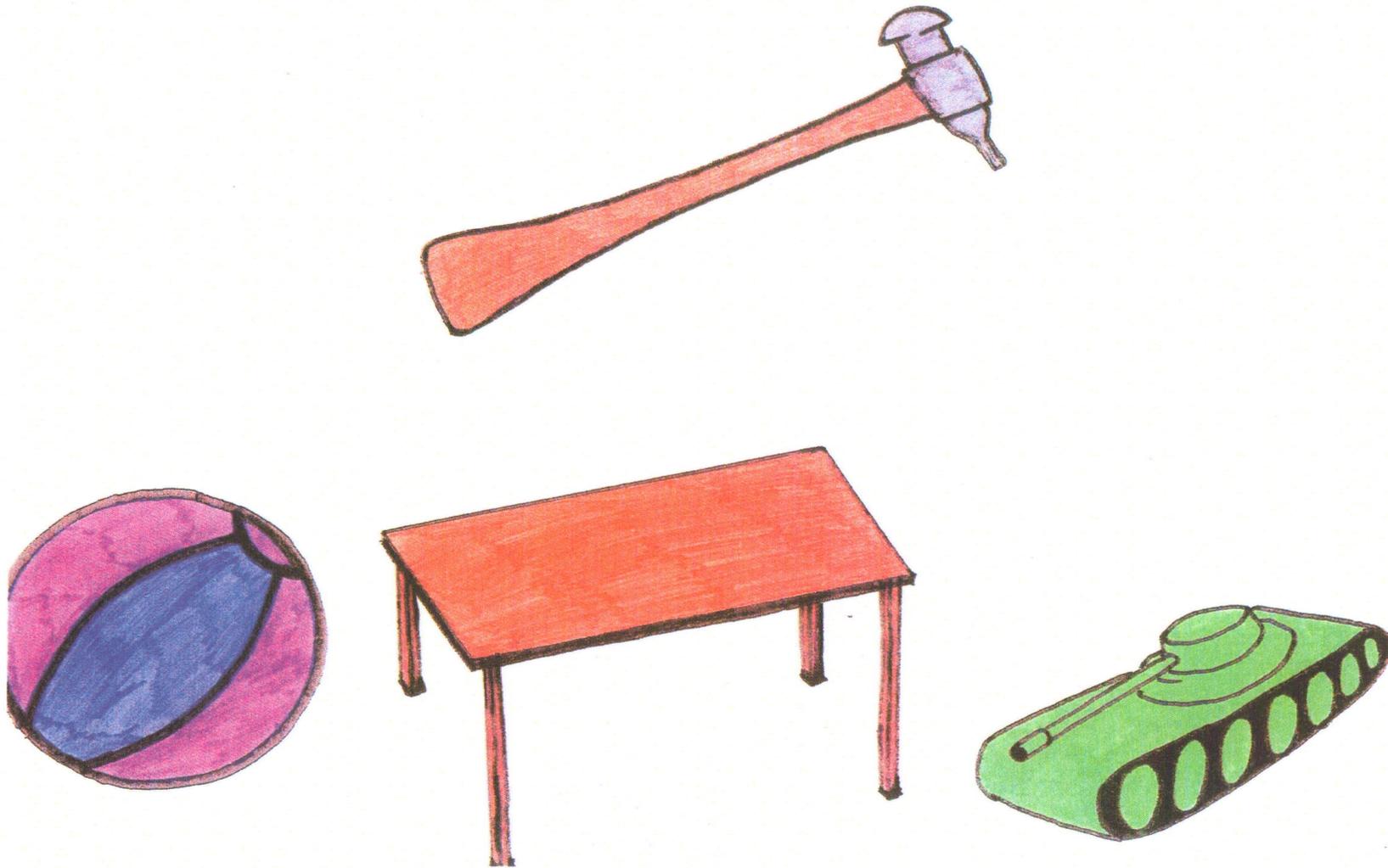
Seall air an dealbh seo – nathair.

Seo trì dealbhan eile. Dè am fear aig a bheil fuaim coltach ri nathair – athair, balach no briogais?

(athair)

1.3

Seall air an dealbh seo – clas.

Seo trì dealbhan eile. Dè am fear aig a bheil fuaim coltach ri clas – ròp, cluich no glas?

(glas)

1.4
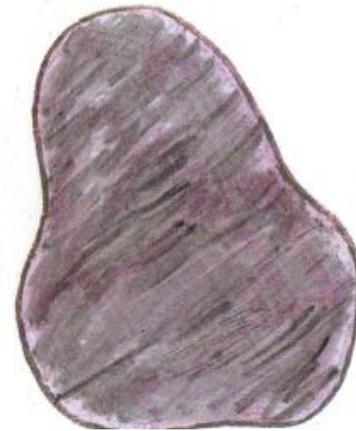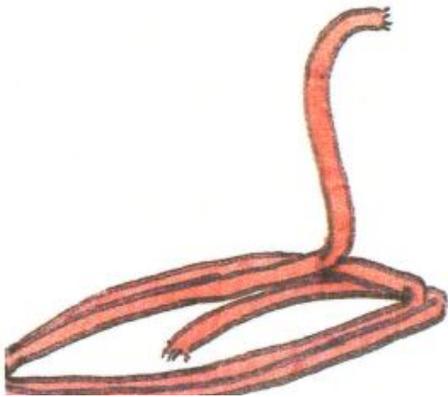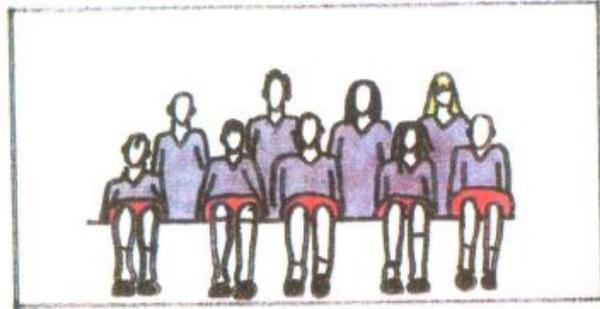
Seall air an dealbh seo – ad.

Seo trì dealbhan eile. Dè am fear aig a bheil fuaim coltach ri ad – stad, muir no

seithear?

(stad)

1.5
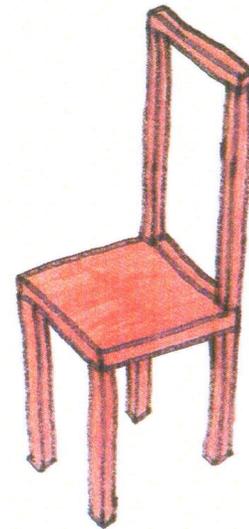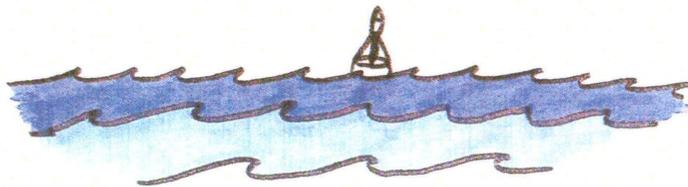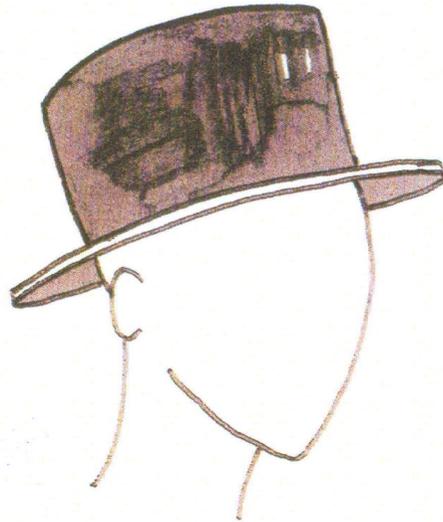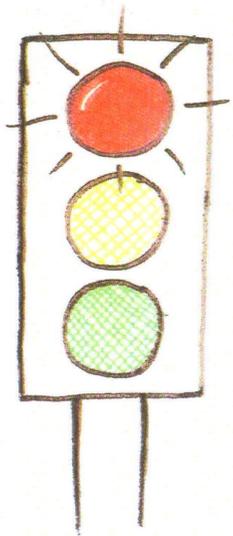
Seall air an dealbh seo – suas.

Seo trì dealbhan eile. Dè am fear aig a bheil fuaim coltach ri suas – sròn, cluas no beul?

(cluas)

1.6
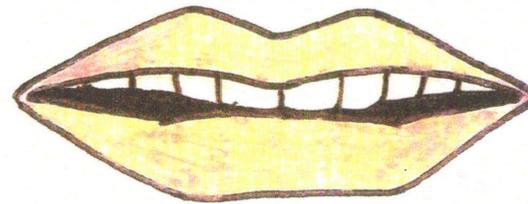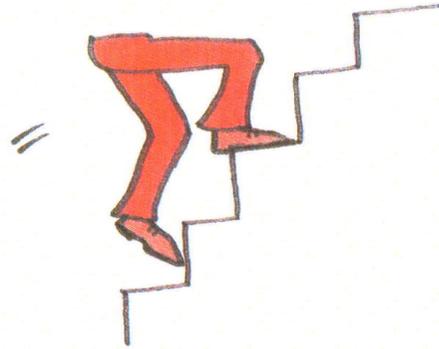
Seall air an dealbh seo – a-mach.

Seo trì dealbhan eile. Dè am fear aig a bheil fuaim coltach ri a-mach – loch, luch no lach?

(lach)

1.7

28
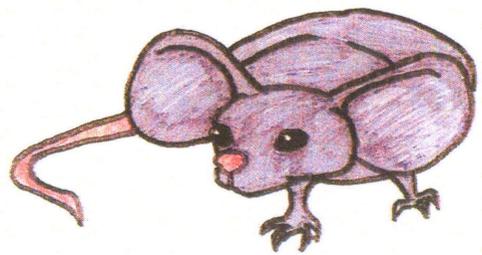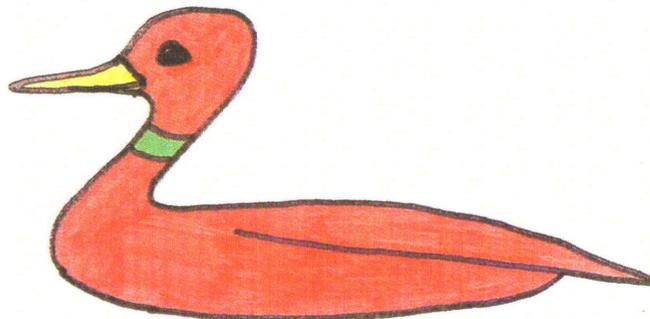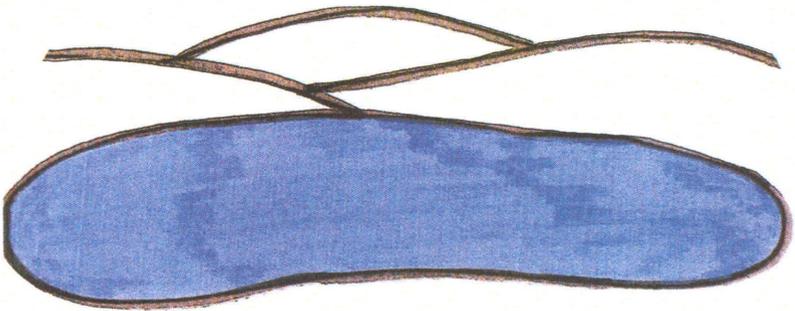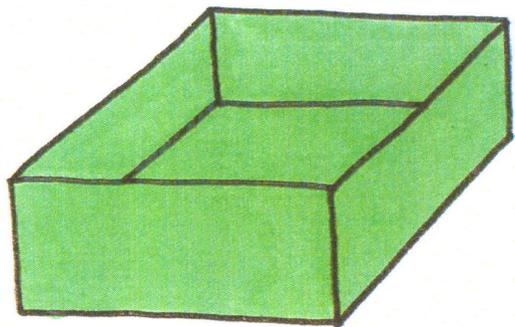
Seall air an dealbh seo – clann.

Seo trì dealbhan eile. Dè am fear aig a bheul fuaim coltach ri clann – ann, cat no cèic?

(ann)

1.8
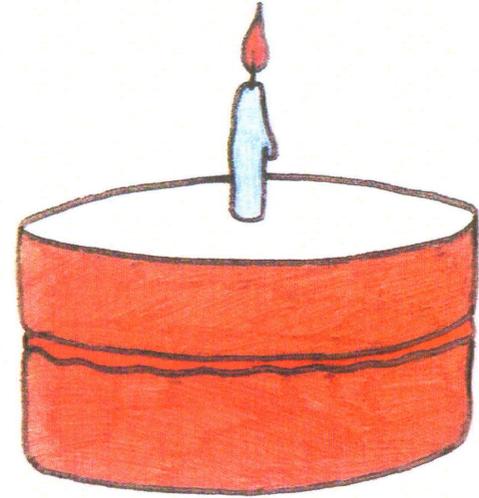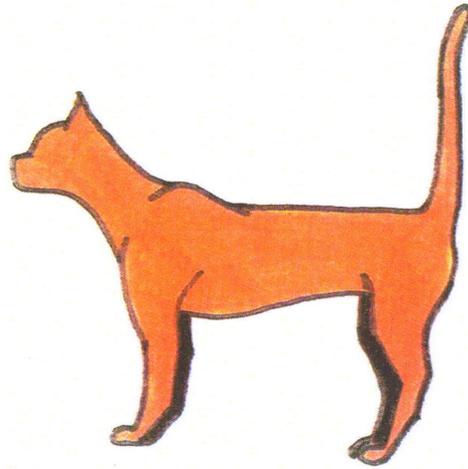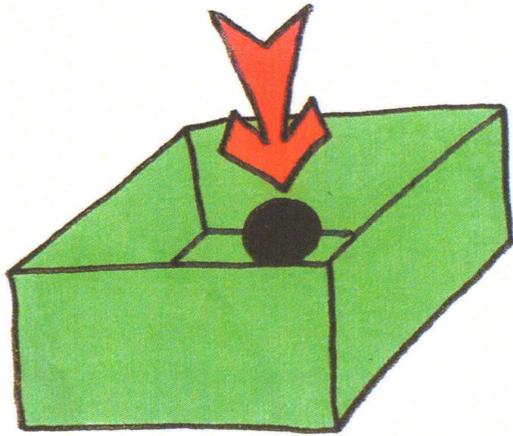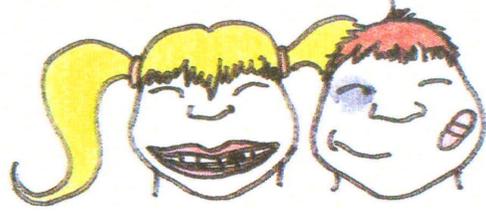
Can na faclan aig a bheil fuaim coltach ri **bùth** mar **cù**……………….

Agus dè na faclan aig a bheil fuaim coltach ri **ann** ……………….

2

Cuir am facal sgadan ann an dà phairt – sga – dan.

Bidh mise a' tòiseachadh an fhacail le sga- agus a' cur crioch air le –dan.

Feuch thusa na faclan eile seo a chuir ann an dà phairt no trì pairtean:

3.1 Cofaidh   (Cof-aidh)

3.2 Bothan   (Both-an)

3.3 Dachaigh (Dach-aigh)

3.4 Teine   (Tein-e)

3.5 Gràineag   (Gràin-eag)

3.6 Maragan   (Mar-a-gan)

3.7 Uilebheist (Ui-le-bheist)

3.8 Toilichte   (Toi-lich-te)

3.9 Teileasgop (Tei-lea-sgop)   **3**

Tha na fuaimean seo a' dèanamh facal. Dè am facal?

C – a – t. Tha sin ceart – Cat.

Agus am fear seo:

4.1 m–u–c   (muc)

4.2 o–chd   (ochd)

4.3 b–à–t–a   (bàta)

4.4 st–a–mh   (stamh)

4.5 gl–a–s   (glas)

4.6 g–o–r–m   (gorm)
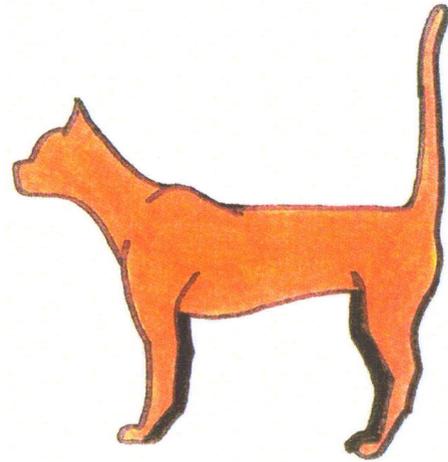
4.7 c–ò–t–a   (còta)

4.8 sn–à–mh   (snàmh)

4.9 g–ea–t–a   (geata)   **4**
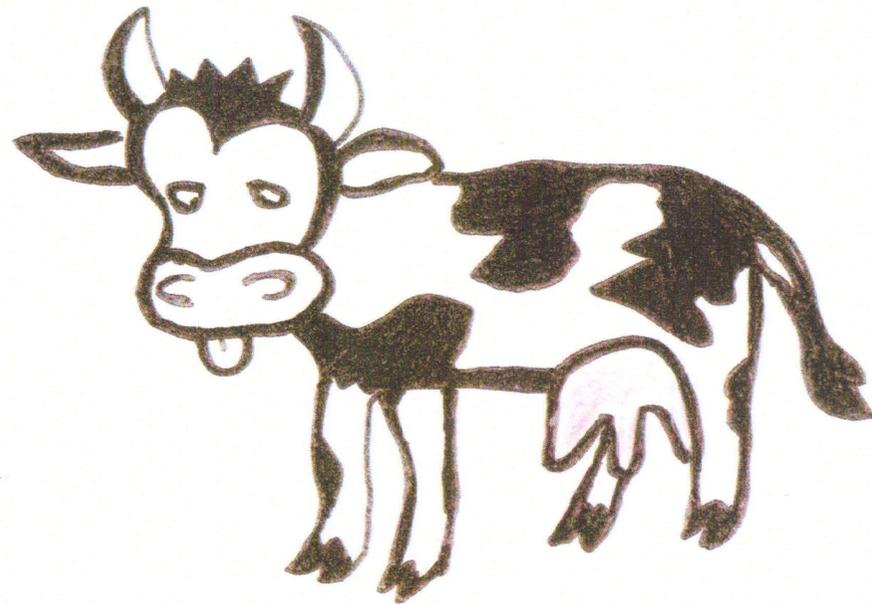
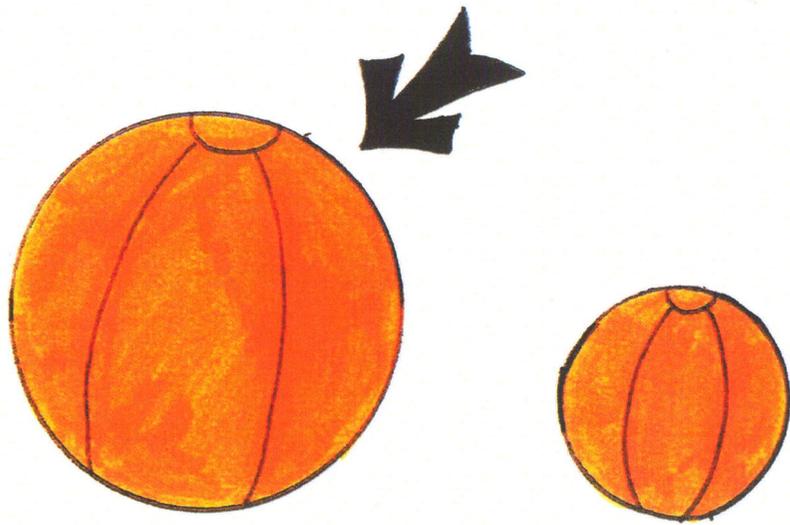Seo **cat**. Tha cat gun **c** ag ràdh **at**.

Feuch fhèin a-nis.

Eisimpleir 5

Seo bò. Tha bò gun b ag ràdh ....(ò)
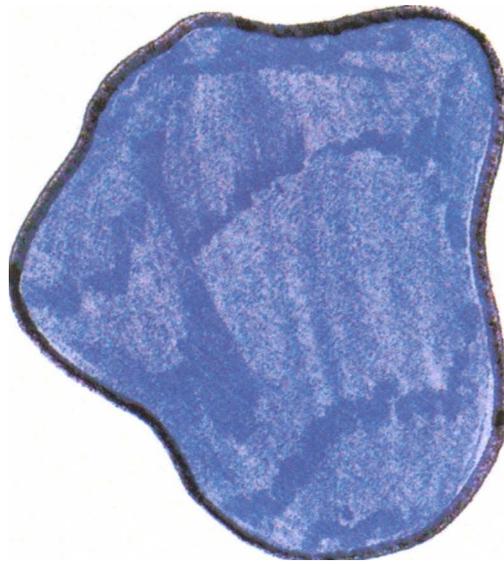
5.1

Seo mòr. Tha mòr gun m ag ràdh ……………(òr)

5.2

Seo gorm. Tha gorm gun g ag ràdh ……………(orm)

5.3

•

Seo bròg Tha bròg gun b ag ràdh ……………(ròg)

5.4

Seo peann. Tha peann gun p ag ràdh ……………(eann)

5.5
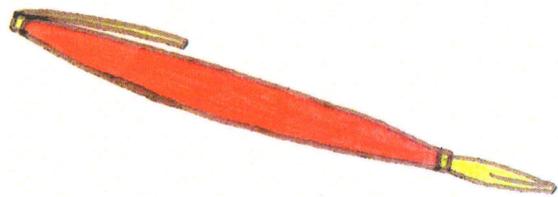
Seo dubh. **Tha dubh gun d ag ràdh ……………(ubh)**

5.6

Seo loch.Tha loch gun I ag ràdh ……………(och)

5.7
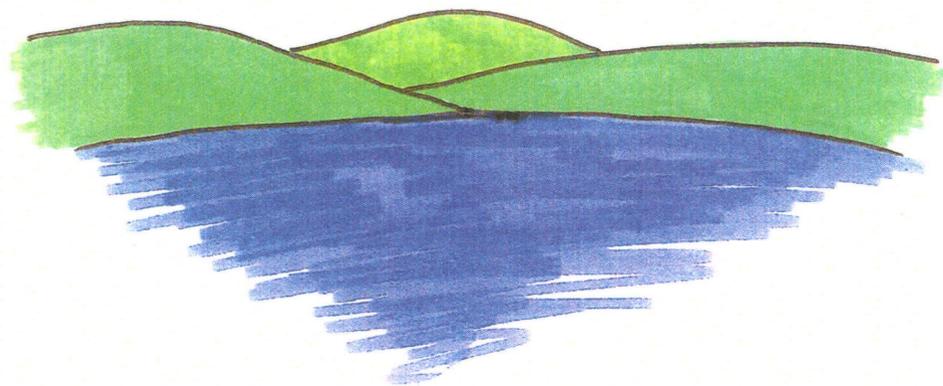
Seo glas.**Tha glas gun g ag ràdh ……………(las)**

5.8
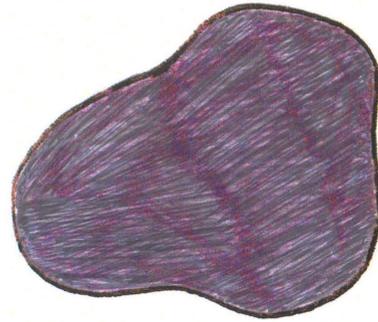
Seo **ochd**. Tha **ochd** gun **d** ag radh **och**.

Feuch fhèin a-nis.

Eisimpleir 6
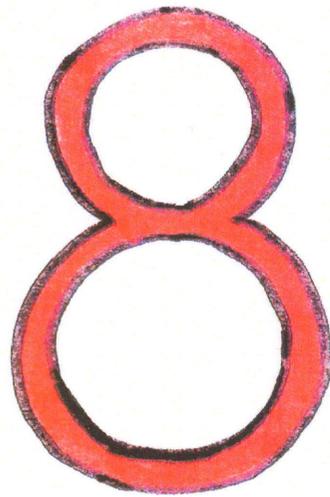
Seo làmh. Tha làmh gun mh ag ràdh ....(là)

Seo càr.Tha càr gun r ag ràdh ....(cà)

6.2
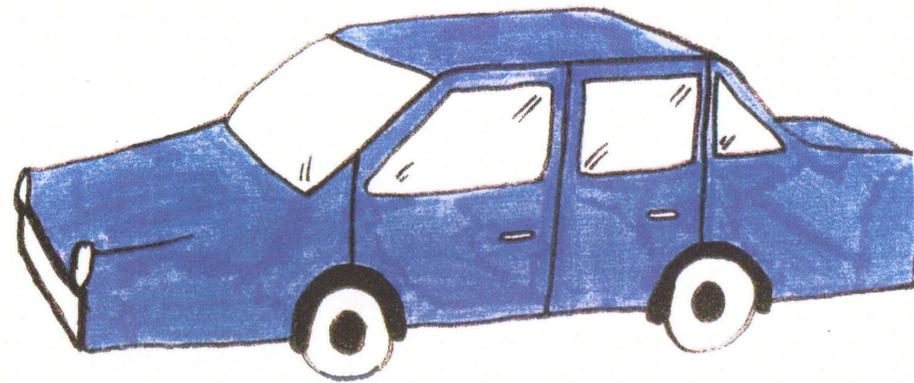
Seo brat.Tha brat gun t ag ràdh …………(bra)

6.3
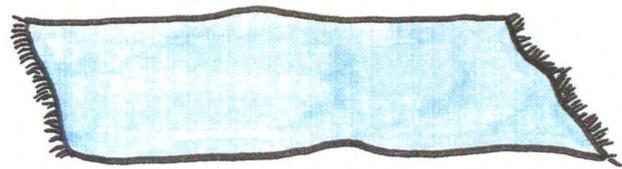
Seo ròp.Tha ròp gun p ag ràdh ....(rò)

6.4
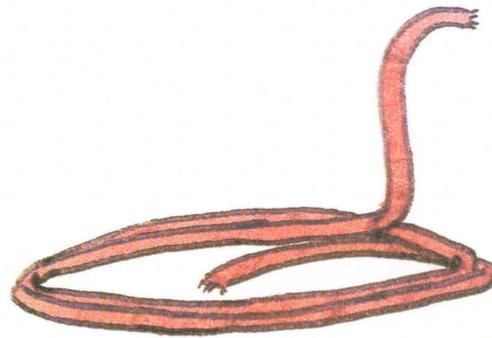
Seo còig.Tha còig gun g ag ràdh ....(còi)

6.5

5

Seo glan.Tha glan gun n ag ràdh ....(gla)

6.6
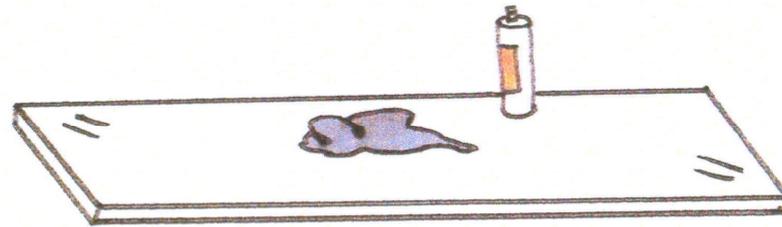
Seo sgeul.Tha sgeul gun I ag ràdh …………(sgeu)

6.7
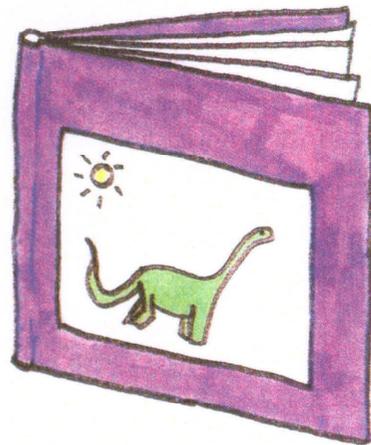
Seo còta.Tha còta gun a ag ràdh ....(còt)

6.8
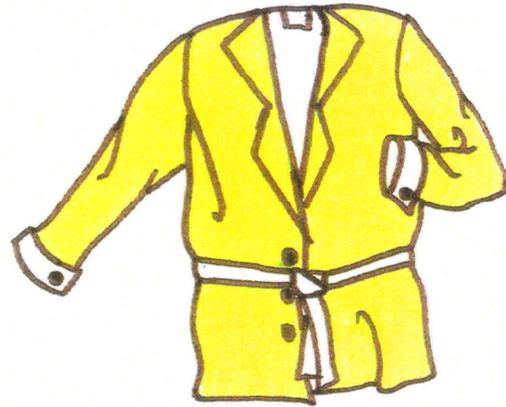
7.1 Can na faclan seo bana-bhuidseach.

7.2 Agus am fear seo corra-ghritheach

7.3 Agus am fear seo leabhraichean-sgrìobhaidh

7.4 Agus am fear seo bodach-ròcais.

7

Coimhead air na litrichean seo.

Dè an t-ainm no fuaim a th' air gach litir?

8

a	à	b	bh	c
ch	d	dh	e	è
f	fh	g	gh	i
ì	l	m	mh	n
o	ò	p	ph	r
s	sh	t	th	u
ù				

Appendix VI:

Test Instructions
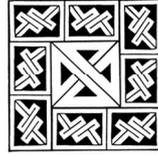
Gaelic Phonological Screening Test

B. Freagairtean

Thoir àireamh do gach sgoilear agus sgrìobh i air an duilleag. Na sgrìobh ainm a'phàiste idir. Cum liosta nan àireamhan anns an sgoil. Sgrìobh an aois m.e. 6:10. Tagh b (boireann) no f (fireann). Cuir am folder ann an cruth mar **Λ** eadar thu fhein agus an sgoilear. Cuir [1] ma tha na freagairtean ceart no [0] ma tha na freagairtean ceàrr.

1. *Rhyming*
1.1 Eisimpleir – cuir do chorrag air gach dealbh nuair a tha thu a' leughadh an stiùiridh.

2. *Rhyme Production*
Sgrìobh a h-uile facal agus neo-fhacal a chanas an sgoilear ann an 30 diog.

3. *Syllable Blending*
Fuirich aon diog eadar toiseach agus crioch an fhacail.

4. *Phoneme Blending*
Fuirich aon diog eadar gach fuaim.

5. *Initial Phoneme Deletion*
Leugh an stiùireadh a-rithist ma tha feum air.

6. *Final Phoneme Deletion*
Leugh an stiùireadh a-rithist ma tha feum air.

7. *Polysyllabic Repetition*
Thoir a' chiad rud a chanas an sgoilear.

8. *Letter Knowledge*
Nì fuaim no ainm nan litrichean a' chùis.

Appendix VII:
Scoring Sheet

B. Freagairtean   Àireamh ___ Aois_____

Rhyming
1.1 [   ]
1.2 [   ]
1.3 [   ]
1.4 [   ]
1.5 [   ]
1.6 [   ]
1.7 [   ]
1.8 [   ]

Rhyme Production
2. Faclan

bùth –

ann –

Syllable Blending
3.1 [   ]
3.2 [   ]
3.3 [   ]
3.4 [   ]
3.5 [   ]
3.6 [   ]
3.7 [   ]
3.8 [   ]
3.9 [   ]

Phoneme Blending
4.1 [   ]
4.2 [   ]
4.3 [   ]
4.4 [   ]
4.5 [   ]
4.6 [   ]
4.7 [   ]
4.8 [   ]
4.9 [   ]

Initial Phoneme Deletion
5.1 [   ]
5.2 [   ]
5.3 [   ]
5.4 [   ]
5.5 [   ]
5.6 [   ]
5.7 [   ]
5.8 [   ]

Final Phoneme Deletion
6.1 [   ]
6.2 [   ]
6.3 [   ]
6.4 [   ]
6.5 [   ]
6.6 [   ]
6.7 [   ]
6.8 [   ]

Polysyllabic Repetition
7.1 Bana-bhuidseach   [   ]
7.2 Corra-ghritheach   [   ]
7.3 Leabhraichean-sgrìobhaidh [   ]
7.4 Bodach-ròcais   [   ]

Letter Knowledge
a   [   ] à   [   ]
b   [   ] bh   [   ]
c   [   ] ch   [   ]
d   [   ] dh   [   ]
e   [   ] è   [   ]
f   [   ] fh   [   ]
g   [   ] gh   [   ]
i   [   ] ì   [   ]
l   [   ] m   [   ]
mh   [   ] n   [   ]
o   [   ] ò   [   ]
p   [   ] ph   [   ]
r   [   ] s   [   ]
sh   [   ] t   [   ]
th   [   ] u   [   ]
ù   [   ]

Appendix VIII:
Pupil Background Information
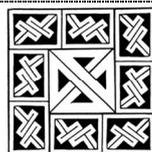
Gaelic Phonological Screening Test

A. Fiosrachadh

	YES	NO
Is the child a fluent Gaelic speaker?	[ ]	[ ]
Does the child understand but rarely speak Gaelic?	[ ]	[ ]
Does the child have only a little Gaelic?	[ ]	[ ]
Did the child attend Gaelic-medium nursery?	[ ]	[ ]
Did the child attend English-medium nursery?	[ ]	[ ]
Did the child attend both?	[ ]	[ ]
Are any parents/guardians Gaelic Speakers?	[ ]	[ ]
Does neither parent/guardian speak Gaelic?	[ ]	[ ]
Are any parents/guardians Gaelic Learners?	[ ]	[ ]
Do any Grandparents speak Gaelic?	[ ]	[ ]

Appendix IX:
Letter sent to Scottish Local Authorities

Head of Education
Council Address

Dear Mr M,

I am presently undertaking a PhD in Support for Learning at the University of Strathclyde. I am studying the early identification of reading delay in Gaelic-medium education.

My research will involve every Primary Gaelic unit. I am writing to you to seek the co-operation of your local authority and permission to contact the Gaelic Education Officer and head teachers of all schools involved in Gaelic-medium Education.

I would also be interested to see any written policies on learning support or identification of SEN for Gaelic-medium pupils to help my research.

If you have any questions regarding the project, please do not hesitate to email me at fiona.lyon.100@strath.ac.uk, or you may phone me on 0141 570 7288.

I look forward to hearing from you.
Mile taing dhuibh airson ur cuideachaidh.

Yours sincerely,

Fiona Lyon

………………………………………………………………………………………………

Permission is given to Fiona Lyon, Department of Education, University of Strathclyde, to contact the Education Officer(s) with responsibility for Gaelic-medium Education and head teachers of all schools involved in Gaelic-medium Education with a view to conducting research on phonological awareness in Gaelic-medium schools.

Contact Person within this Authority:
Name   -
Address   -

Telephone   -
E-mail -

Signature	_____
Authority	_____
Date	_____

Appendix X:
Questionnaire to teachers

1a.Was the test easy to administer?   Yes   Quite   No
1b.What would make it easier? Please comment below.

2a.Was the length of the test alright?   Yes   Quite   No
2b.Which items would you exclude or add? Please give details below.

3a.Did you feel it tested accurately pupils' phonological skills?   Yes   Quite   No
3b.What other subset would improve the test?

4a.Do you think it identified areas of phonological weakness?   Yes   Quite   No
4b.What else would help identify future difficulties with reading?

5a.Will the pupils' results help you to plan future intervention?   Yes   Quite   No
5b If Yes, in what way?

6a. Did you find the results informative?   Yes   Quite   No

6b. How will you use the information gathered?

7a. Would it be helpful to use tables to see a pupil's results?   Yes   Quite   No

7b. How would you like to see this presented e.g graph, pictorial profile?

8a. Would you like to see any changes made to the test?   Yes   Quite   No

8b. Please give details below.

9a. Do you use any other similar tests?   Yes   Quite   No

9b. If Yes, please give titles.(Please say if these are in English or Gaelic.)

10. Please make any further comments about the test.

If you would be willing to take part in a short telephone interview about this screening test please give your name and contact details below.

Moran taing.

Appendix XI:
Consent form for teachers

Early Intervention in Gaelic-medium Education
Consent Form

I have read and understood the Information Sheet.

I understand what will be required if I agree to participate.

I understand that I may opt out of the research at any time.

Signed ……………………………..

Date …………….

Appendix XII:
Letter sent to schools

9 October 2008

Headteacher
School Address

Dear Ms M,

Thank you for agreeing to receive the Gaelic Phonological Screening test. I am presently undertaking a PhD in Support for Learning at the University of Strathclyde. I am studying phonological awareness in Gaelic-medium education and how it can best be assessed.

My research involves every Primary Gaelic unit/school in Scotland and I am very grateful to you for assisting me in this study. The test should be administered by the class teacher of Primary 2 and Primary 3 pupils. I enclose all the resources required, including pupil record sheets, teacher information leaflet, consent form, questionnaire, instruction sheet and demo CD. When completed would you please return everything using the adhesive stamped addressed label and the reusable padded envelope.

If you have any questions regarding the project, please do not hesitate to email me at fiona.lyon.100@strath.ac.uk, or you may phone me on 0141 570 7288.

Mile taing dhuibh airson ur cuideachaidh.

Yours sincerely,

Fiona Lyon

Appendix XIII:

Information Leaflet for Teachers

Early Intervention in Gaelic-medium Education

Research is being carried out on how pupils acquire phonological skills and this will help teachers to assess their reading in Gaelic.

What is the research about and why is it being done?

The purpose of this study is to identify the best way to assess a child's phonological ability in Gaelic.

What will I have to do?

You will ask each child in Primary 2 and Primary 3 some questions about letter and word sounds using picture stimuli.

When will this take place?

After October holiday 2008 for return by 30 November 2008. The tasks take 10 to 15 minutes to complete and will usually be conducted by a class teacher or learning support teacher.

Why have I been chosen as a participant in this research?

It is important that as many Primary 2 and Primary 3 pupils as possible are involved as there are so few Gaelic-medium units.

What if I want to get more information about the research?

You may contact us using the phone number or email address in this leaflet. We will be happy to answer your questions.

Will it make a difference if I take part?

Yes. The information gathered should allow Gaelic-medium teachers to improve practice by identifying any reading delay at an early stage.

Will the results be published?

The results of this research will be published. You will receive a summary report of the findings. They will be of interest to education professionals and to people working in all areas of Gaelic-medium education.

Confidentiality

Any information that is gathered will be treated in the strictest confidence. The details of each child's performance will be kept private and no names will be used when the research is reported.

Thank you for reading this information

Pupils will be asked to take part and will have the opportunity to opt out.

If you have any questions about this study, please contact:

Fiona Lyon
Department of Childhood and Primary Studies
University of Strathclyde
Telephone 0141 570 7288
Email fiona.lyon.100@strath.ac.uk

Dr Geri Smyth
Reader
Department of Childhood and Primary Studies
Faculty of Education
University of Strathclyde
Glasgow G13 1PP
0141 950 3744
Email g.smyth@strath.ac.uk

Early Intervention in Gaelic-medium Education

A study of the acquisition of phonological skills in Gaelic-medium pupils
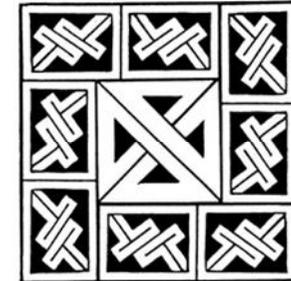
Information leaflet for teachers

Appendix XIV:
Questionnaire collated qualitative results

Question 1 **Was the test easy to administer? What would make it easier?**

Head Teacher
40. Very straightforward – good instructions – folder layout made it easy.
14. Test had to be administered pupil by pupil which I found very time consuming. Batch testing would have been better.

Depute Head Teacher
46. I found some pupils required more explanation of what was required for some of the tests and the first questions became like further examples.

Principal Teacher
41. Apologies for the delay – so much else going on but we eventually managed – a bit fragmented.
44. I was fortunate to have a student, which enabled me to take children out individually. Otherwise it would have been very difficult to find the time to administer.
37. Perhaps more examples for the children prior to each section's assessment as some children didn't seem too sure of what was being asked of them.

Classroom Teacher
2. It was very easy to administer, I hardly needed to listen to CD.
11. Was very straightforward.
10. Was easy & pupils enjoyed doing it.
25a. Test was fine.
45. Easy to administer, but time consuming.
8. I'm not sure! It would be easier to administer the test as a class but I know that isn't possible as they would copy each other!
19. Doing it away from the classroom so pupils do not hear each other.
30. It would have been easier to administer the test if I had been given time out of class.
9. Differentiation between P2 P3 & also between children from Gaelic & non-Gaelic speaking backgrounds.
13. Answers on the back of the card – using in the folder to keep in sequence was awkward.
29. Rhyme production – more examples could be given to give children a clearer understanding of what was expected.
35. I found that because children had not been tested in this format before they were worried about giving an incorrect answer. Therefore it

took longer to administer. Difficult too, gathering P3 children from another class.

26. It was extremely time consuming in a very busy work schedule – approx. 2 ½ hours.

Question 2 Was the length alright? Which items would you exclude or add?

Head Teacher

14. Letter knowledge – had to give some examples to jog recognition of some blends eg fh – very difficult.

18. Children argued that the *glas* wasn't glas but purple!

Principal Teacher

41. P3 children found letter/phonic recognition quite easy. It was time consuming but worth doing.

38. Exclude syllable blending.

20. Individual testing of ten children is time-consuming.

37. The test seemed comprehensive but it did take about 20-30 minutes depending on the child therefore it is not possible for the class teacher to administer the test.

Support for Learning Teacher

23. Perhaps the examples (test items) could be reduced to 6 and a section on Alliteration be added.

Classroom Teacher

13. All good and informative!

8. Length was alright – it was difficult to administer in a multi-composite class – because it had to be done individually.

25a. Length was fine as I only had 4 children in P2 to test.

9. Fewer examples for the P2 children (who found it impossible to understand in <u>some</u> instances) but wider scope under letter knowledge especially for P3, e.g. vowel blends, sgr, sr, bl etc.

19. Some difficulties with hearing if they got it right especially final phoneme.

29. Polysyllabic repetition could maybe be excluded as knowledge of child's speech difficulties covers this area.

25b. Rhyme Production could be excluded or changed as many children were hampered by either not being able to recall words or not having a broad and easily accessible vocabulary.

30. Pupils found it hard to think of words in the rhyme production section.

45. Maybe rhyme production as many of the children found this difficult.

35. They found number 2 (Rhyme production) very difficult – and waiting 30 seconds seems long when they can't think.

29. On average this test took 15 minutes per pupil to administer.

Question 3 Did you feel it tested accurately pupils' phonological skills? What other subset would improve the test?

<u>Head Teacher</u>
40. Some simple blends could have been added e.g. *ao, ua, ch, cr.*

<u>Depute Head Teacher</u>
36. Informal testing in class produced similar results.

<u>Principal Teacher</u>
20. I felt the level of CVC words and CCVC words was more appropriate for P1.

<u>Support for Learning Teacher</u>
23. Teacher could say the word – then ask pupil to repeat it 'without the …' similar to the section in DST Kit.

32. The rhyming of *dhà* and *làtha* (as they pronounce it) was a bit confusing. In 6 (final phoneme deletion) the sound you ask them to leave out sounds like 'g' but the test says 'd' so they would have to know spelling.

<u>Classroom Teacher</u>
8. There were areas in the test that I don't often cover – it is interesting to see how they coped. Having more initial testing & blend assessment may help those who struggle.

19. Consonant blends e.g sl as in *slat*, br as in *briogais*.

9. Section on vowels carrying stress (à, ì, etc)

10. Slightly more advanced words for P3.

13. Perhaps sight-reading CVC words and simple blended words.

25. It confirmed what I thought about pupil 4 – that they find sounding out and breaking down sounds difficult. Pupil 3 did better than I would have expected.

Question 4 Do you think it identified areas of phonological weakness? What else would help identify future difficulties with reading?

Head Teacher
40. Some confusion on rhyming – section 2 – not a lot of materials for rhyming activities in Gaelic at the early stages.

Principal Teacher
41. Highlighted the blends that children were unsure of.
20. Future difficulties- dh, mh, ch etc. with vowels eg adh, eadh, amh, ach, each, aidh etc
37. A brief test of sight vocabulary? E.g. *agus, tha, bha* etc.
38. Quite a lot of pupils struggled with initial phoneme deletion – this type of activity may not have been covered during phonics lessons.

Classroom Teacher
9. Test confirmed areas of phonological weakness.
11. Showed specific areas of weakness and strength. Could now focus on weak areas & aim to strengthen them.
7. More detail.
25. It confirmed what I thought about pupil 4 – that they find sounding out and breaking down sounds difficult. Pupil 3 did better than I would have expected.
26. The areas of weakness are already known due to the use of Faclan agus Fuaim. I monitor regularly pupils' progress so I am already aware of specific weakness.
13. Do sight-word testing in class.
8. As a teacher I am aware of their weaknesses. I feel there is very little to aid those who struggle in this area. A SfL pack or ASN materials would be great but it's a huge job!
30. A similar phonological screening test suitable for the middle and upper stages would be helpful.
45. Maybe similar tests at the P2 stage.
35. Maybe blending – from visual flashcards.

Question 5 **Will the pupils' results help you to plan future intervention? In what way?**

Head Teacher
40. Quickly identifies areas of difficulty, also shows where more practice is required.
14. One pupil in particular will require more syllable blending.
18. I think more work is required in my class with blends, especially sh which they got wrong. I find these blends are a problem up the school as well – fh as in fhuair, gh, ph, dh.

Depute Head Teacher
46. It has highlighted specific areas of uncertainty for some pupils which allows us to focus on reinforcing those aspects.

Principal Teacher
1. When planning phonics teaching it has helped identify where children have the most difficulty.
20. Revision of sounds that were not recognised.
33. More practice of blendings.
44. Will know what areas to focus on.
37. As a manager I am interested to see significant weaknesses in children's recognition of blends e.g. gh, dh etc. and will be checking to see how the new phonics scheme is implemented in the class.
41. For revision and review of phonics for those children who are having difficulty memorising or recognising sounds within words.
38. Able to identify pupils who are not able to rhyme in Gaelic at an early stage.

Support for Learning Teacher
22. Revision of sounds not known. Possibly look at learning/teaching styles.
23. Unfortunately we had a very small sample which would not reflect a typical group. However this screening would benefit in cases where pupils did not appear to be making progress in P2. As English reading is generally introduced in Term 4 of P3 the earlier the screening is done the better – probably P2.
32. Areas of weakness in how they attack words can be targeted.

Classroom Teacher

7. Will consult with support for learning teacher and speech therapist about possible intervention.

10. Has given me a very clear idea of pupils' abilities in pulling sounds together.   I can now stretch some of the more able pupils further than I thought, and continue to support others.

13. This will help to focus on areas that need consolidation – helps to highlight potential future language difficulty.

30. I can use the results to find suitable resources for the pupils.

43. I can make provision for pupils who need more support in some areas.

2. I found some areas of weakness that I thought children were fairly secure in.

4. Continue to work with the double letter sounds – dh, fh, etc. Aslo ao, ia, ua, etc.

6. Need to revise aspirations dh, gh, fh, ph with some pupils. These are the sounds they seem to find most difficult.

11. Showed up initial sounds which pupils were a bit sticky on & will now revise these.

19. Hope to do more 1:1 work.

25. I will need to do more work with pupil 4.

27. It shows that the children find syllables very challenging and this has shown me I must do more on this. I am also going to do more on rhyme as they all struggled to think of words to rhyme with *bùth & ann.*

28. More work and time spent on polysyllabic repetition. Though the choice of words were difficult here and not used very frequently.

29. More work on Rhyme Production. Sh/fh/th – make children more aware of this sound at an earlier stage than at present.

31. Realised my pupils rely heavily on seeing the written word when doing section 5 and 6 particularly. (initial and final phoneme deletion)

33b. More practice of syllable blending.

35. Will do some work on phoneme deletion.

45. By addressing areas of weaknesses and giving extra help to individual children. Making up games or using materials already produced with sounds like *ea, ai oi, eu.*

8. I know where their weaknesses lie but some areas were highlighted.

Question 6 **Did you find the results informative? How will you use the information gathered?**

Head Teacher
40. Use results when planning language.
14. Future planning.
18. To plan phonic work.

Depute Head Teacher
46. Has highlighted specific areas for some pupils.

Principal Teacher
44. To plan future lessons.
33. To prepare future lessons with focus on weak areas.
36. To help plan support for pupils with needs.
20. To revise.
37. Encourage class teacher to consolidate blends and use whiteboards with magnetic letters to build words. Look at rhyming.
38. Results will highlight areas that pupils did not perform well in.
41. It was interesting t find out what the children knew and what they were unsure of regarding phonics.

Support for Learning Teacher
22. Look at different learning styles of the children in the class.
32. To help plan intervention.
23. If an area proved unsuccessful for that pupils, we would target this in class or individually.

Classroom Teacher
13. To plan future phonics lessons
30. I will use the information gathered for future phonics plan.
11. Use it to work on areas of weakness & strengthen them.
8. Perhaps plan activities to cover areas which appeared in the test.
26. Further consolidation of problematic blends.
27. To concentrate on the gaps in the class.
33a. Highlighted weaknesses to be worked on.
43. To give more support where required.
45. To plan future activities which will strengthen areas where there are certain weaknesses.
10. To pinpoint blends some of the children may have forgotten and reinforce.

12. It shows which sounds have to be done – and some done again! It is obvious where weaknesses are.

25. I will need to do more work with pupil 4.

25a. Revision of sounds with one child. Work on syllables with all – clapping word beats.

28. The results highlighted weaknesses children have in rhyme production – more work to be done in class.

29. Rhyme Production seemed to be something that gave most a problem. I will need to address this with work in class. Also younger children have not done much work as yet on sh/fh/th blends, as was evident from results.

45. Make use of magnetic letters for children to make up own words.31. Provide more practice in the areas of difficulty e.g. child 4 has great difficulty with syllable blending which was quite a surprise to me. I obviously need to revise with Primary 2 – mh/sh/fh etc.!

35. Though as mentioned previously – the results are simply a snapshot of the moment and I'm aware that children gave me wrong answers yet answered differently in a class situation. I've photocopied the results – but not had time to study them yet.

6. Felt that the Facal agus Fuaim programme which we use to teach phonics has made an incredible difference.

Question 7 **Would it be helpful to use tables to see pupils; results? How would you like to see this presented e.g graph, pictorial profile etc?**

Head Teacher
40. One to one interaction was more useful.
18. Not to me but maybe to others. Tables and graphs baffle me.

Depute Head Teacher
46. Some form of 'at a glance' display which would show areas of strengths and weaknesses.

Principal Teacher
33. Graph please.
36. Graph
20. Possibly.
37. Not sure!

Support for Learning Teacher
23. Graph.
44. Graph.
22. Maybe have an overall score with a profile showing areas of strength and weakness.

Classroom Teacher
5.   Graph
7.   Graph
19. Graph
10. Graph form would be very useful.
25. Graphs are always good!
25a Graph.
27. A graph.
28. Graph.
30.   In graph form.
33a.Graph.
39. Graph.
43. Graph.
29. Pictorial profile.
45. Probably a pictorial profile.
8.   It would be very interesting to see them.
26. It wouldn't matter.

Question 8. Would you like to see any changes made to the test? Please give details.

Head Teacher
14. Perhaps some helpful examples for the letter recognition blends.

Depute Head Teacher
46. Extra examples before starting. In 6 – ochd- not a clear last sound for an example (practice) a more straightforward word so that they get the idea clearly.

Principal Teacher
33. P3 could cope with all tests.
41. The test was too easy for some P3 children. Perhaps aim at P1/P2?
41. Phoneme blending – difficult for children.

37. The test seems well thought out but needs another 'body' in the classroom to deliver – learning support teacher or member of management team.

<u>Support for Learning Teacher</u>
22. I found the phoneme blending test very difficult to administer particularly words *ochd, còta* and *geata.*

<u>Classroom Teacher</u>
39. Perhaps more challenging for pupils.
33. Initial Phoneme Deletion + Final Phoneme Deletion was very difficult for most P2 pupils except pupils with excellent language ability.
6. not sure about section 7 – the children were a little perplexed that they only had to repeat a word I said !
8. Maybe change some of the language used in assessment – to follow Facal is Fuaim – maybe for the 1st or the example question so the children are familiar.
13. Sight- reading words or CVC words to read.
29. Some made word association when faced with some of the pictures e.g. 1.4 *clas* and *cluich*, *clann* and *cèic.*
31. Rhyme Production – perhaps another word instead of *bùth.* Initial Phoneme Deletion – *bròg, glas* – children automatically think of the blended sounds.
9. Jolly Phonics P4 and above in English.

<u>Question 9</u> Do you use any other similar tests? Titles? In Gaelic or English?

<u>Head Teacher</u>
40. Assessment of sounds – own materials

<u>Depute Head Teacher</u>
36. Sound Linkage in English.

<u>Principal Teacher</u>
1. None at the moment in Gaelic. We use Aston Index with English.
20. Have used Nelson screening tests in English.
33. Can you please publish tests for classroom use/ testing. Can identify problem areas.

<u>Support for Learning Teacher</u>
23. Edinburgh Baseline in English.
32. Just been given SNAP.

<u>Classroom Teacher</u>
7. Support for Learning teacher uses other tests in English.
29. SNAP – Gaelic probes now available to use with English version of test. 'Toe by Toe' – English version adapted to Gaelic by me and use with pupils who show signs of reading difficulty.
7. Not yet but intending to use the Special Needs Assessment Profile SNAP which is available in Gaelic but doesn't go into so much depth phonologically though it does give a good overall assessment of needs.
25. Highland Council have a similar test in Gaelic – Measadh leughaidh – deuchainn sgrùdaidh 2001, deuchainn sgrionaidh.
28. Made up by class teacher and all in Gaelic.
35. Own generated tests to see where the children are in their learning. All work is in Gaelic.
26. Weekly in house checklists.
10. Only pictures I have made up myself to reinforce letters and blends.
5. Facal agus Fuaim
31. I find the Facal is Fuaim materials very useful.

Question 10 Further comments.

<u>Head Teacher</u>
18. The only real problem my pupils had was with unfamiliar words – lach (they say *tunnag*), peann (they say *peana*) and one or two pictorial concepts that I explained to them.

<u>Depute Head Teacher</u>
46. Is it your intention to make this available to GM schools/ units? Perhaps some of the exercises could be progressive i.e. from simple words/ sounds to more difficult ones.

<u>Principal Teacher</u>
1. Very enlightening with some children – older children did better – it confirmed also children who already experience difficulty with reading.
33. Would be interested in results.
20. Found it too easy for P2/P3.
37. Pupils found it very easy.

38. With a lot of children it was quite time-consuming to complete. A lot of the pupils were only 6 and could not provide the information requested.

Support for Learning Teacher
23. Thank you – it is long-overdue.

Classroom Teacher
11. Thought test was very good – covered good variety of areas & tested different skills. Thorough.
13. A good indicator of potential problems – this was comprehensive but short and easy for the child to do.
33a. I would be very interested to discuss results of research.
42. Found it very helpful and useful as an assessment. Made me aware of specific problems with one of my pupils.
45. I found the test to be very interesting and although a bit time consuming I feel that it will benefit both the pupil and teacher.
19. I kept a copy of answer sheet only to try at a later date using similar words/sounds. I will destroy if you don't want it to be used again.
4. They found taking away the last letter/sound (ochd) difficult.
5. 1.2 confusion with same initial letters ie la & luch, 1.3 bord & ball, stad & seithear.
6. Word blending. I think this would alter the findings somewhat. Even I find these difficult to commit to memory and need to think of words which include them.
31. Syllable Blending – hand clapping syllables helps children – perhaps this could be suggested in your guidelines.
10. I found it slightly too easy for the majority of P3. Could maybe be extended for older pupils.
25a. If the test could have been put on disk (say as a pre-recorded powerpoint) it would have been a lot easier on the teacher!
28. The Fiosrachadh required at the beginning of each result sheet. The children are not fluent but always speak Gaelic in class and have excellent understanding. None went to Gaelic nursery, but several attended Croileagan.
7. Would be good to have specific schemes of work to follow once an area of weakness has been established.
8. Maybe to do it at another time of year – but I understand it is for your course!
9. Apologies for the late return! It was difficult to find the time to do the testing.

Appendix XV:
Telephone interview schedule

INTERVIEW SCHEDULE

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

2. Did the test results corroborate attainment?

3. When do you think it would be best to give this test, how should it be conducted and by whom?

4. What do you use to teach phonics?

5. What do you use to identify pupil's rhyming skills?

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

8. Would you envisage using this test in future years?

Appendix XVI:

Interview transcripts

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

The children thoroughly enjoyed doing it. They didn't think that they were doing a test at all. They weren't aware of testing. The test covered a good range of things with them – phonological awareness, rhyming, initial/final phonemes, the blending. The asperational blends the kids found really hard are the *fh, th*. They are the ones we've got up round the board as they are the ones, for some reason, they just can't put those ones together. Some of the other ones they get on with really well but all those ones with the *h*, they find those particularly difficult. But we've been doing, as well, the Highland Literacy Project and they've got lots of strategies. We've been using mental maths strategies but with language and the same type of thing with phonics, like doing speedy phonics with them where I might write all those *h* words up and they're just sort of pointing to them. It's rapid and doing that daily with them and exercises like that has helped them. And so it (the test) just gave me an awareness again of where they were. We've got the little books from Facal is Fuaim but there's no assessment for it. I just tick them and comment at the bottom. I might say 'knows them all' or 'doesn't know *fh, st, d*' or whatever. So we just use that. They've all got their own individual little books. And also from that as well any that they don't know, they take home little cards that I make up with the sounds on them and then also there are words around the door, say for example the '*bh*' string of words. We keep practising that.

2. Did the test results corroborate attainment?

Yes. If you had given us this to do four years ago I wouldn't have said the results would have been anywhere as good as they were this year. Facal is Fuaim has made a phenomenal difference and the head teacher with Primary 1 just before Christmas time had a meeting to find out how they are settling in and what they liked best about school and don't like. The previous two years they hated the letters but now we are going through them rapidly. We're doing a sound a day from day one in August but that still takes us to the February weekend before we get through them all. Then they

can start to read properly and write but it's just the progress they make is phenomenal. A huge difference in spelling. My colleague has a son in Primary 5 and a daughter in Primary 3. The son didn't go through Facal is Fuaim. The example we give parents is *chraobh*. He would get the *ch-r- ă -ŏ-bh* and never say the word *chraobh* whereas she sees *chr-ao-bh*, three sounds for her so it makes a huge difference in that sense. The little primary 2 girls, none got a word of Gaelic at home, and have been off for two weeks holiday, have come back and are sounding/blending the words; the reading's coming on.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

Just into Primary 2 and Primary 3. By Primary 1 you've covered all the sounds with them so half way through primary 2. Term 1 would not be a good time as they haven't heard Gaelic for six weeks over the summer holidays so they need Term 1 to get back into it. It's good revision in Primary 3 too. I've got a wee one who is not so hot – it was good for him. Primary 2 was the best time for it. The children were comfortable with me doing the test. Class teacher is the best I think. Possibly just the way I did things but I did do it very fairly.

4. What do you use to teach phonics?

Well, as I've said we use Facal is Fuaim and for reading we use Storyworlds. They find vowel blends more difficult. Even I find some of these hard to remember off the top of my head which sound they actually make so I have cards with a word on the back to make sure I 've got the correct sound. Our mainstream are copying some of the strategies in Facal is Fuaim with their Jolly Phonics, really upping the pace. We were much slower before in giving the sounds and they've decided to work the same format because it has worked so successfully.

5. What do you use to identify pupil's rhyming skills?

They find rhyme at the end so difficult to do. They haven't got the vocabulary. If I had said to them *beag* and they had to come up with a rhyme like *creag* – they just haven't got the vocabulary. We don't really look at rhyming, that was something new to them in the test.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

I was in the fortunate position that I came to the school when Facal is Fuaim arrived. I had taught in upper stages for ten years prior to that. I suppose we had learning support and if you had a child who was struggling with reading and writing you would refer them to them and they did whatever tests they had but then with the infant Gaelic class those tests weren't in Gaelic so they had to wait until the end of Primary 3 and into Primary 4 before they were really tested to see if there was a dyslexic problem or whatever. I have a little girl in Primary 1 who has just arrived from Edinburgh – no Gaelic pre-school. Both parents are learning and decided to put her to Gaelic-medium whereas the boys in Primary 1 with her went through two years of Gaelic pre-school. She has managed to say quite a lot in Gaelic and even wrote a little story. She has got all her sounds and we started writing after Easter but she's got problems blending – she finds it very difficult. She doesn't know the words. Some pupils have the reversals in blending and reading. They find spelling quite difficult when you do introduce the English sounds to them that they haven't got in Gaelic like *v/th*.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

No, all are learners. One little girl whose mother has more Gaelic – a few speak to their Mum when they come into school but I wouldn't say they were fluent. Some have one parent who speaks Gaelic.

8. Would you envisage using this test in future years?

Yes. Primary 2 definitely but also in Primary 3 to consolidate.

Interview 2   Principal Teacher   Other Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

I would need some more information to plan next steps. When it was being done, and I did some of the children, I could see what you were actually looking to assess but at the same time I wasn't 100% sure. If I had more background knowledge of what that particular aspect of the test was looking at, that would have been quite helpful. Yes, results displayed in a graph or table would be very good.

2. Did the test results corroborate attainment?

Yes that would probably be true.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

They would need to be taught their phonics first of all, probably Primary 2/ Primary 3. At Primary 1 they are just getting the grasp of what phonics are and how you sue them and put them together. You need to give them that year of doing that. The class teacher would be best to do the test, being the person that knows them. Because it's an individual …, well, I did it individually, each child individually to get the best results then that is time consuming.

4. What do you use to teach phonics?

Storyworlds for reading and Facal is Fuaim of course.

5. What do you use to identify pupil's rhyming skills?

It's quite difficult at immersion stages because of the lack of rhyme in Gaelic.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Just through their lack of progress when it came to reading that they weren't progressing and sort of using the skills with regard to phonics and not using that skill to progress with reading; looking at word attack skills and phonic blends not being able to pick out blends. The specialist support teacher uses the Aston Index in English for all ages including Primary 2 and 3. This is a baseline assessment she uses before referring pupils for further investigation. A psychologist is very reluctant to see a child until Primary 3 anyway.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

No because we don't have that.

8. Would you envisage using this test in future years?

I definitely think there is an area for it, absolutely, to help with identification, to pinpoint more accurately where difficulties lie in the initial stages before referring on to….I think it would be a very helpful tool alongside an Aston Index where you could look at Gaelic phonics. And another thing that we're up against is a psychologist is reluctant as well to say whether it is because of doing an additional language that these difficulties occur or whether they would just occur anyway. In

my experience, I think that they would just occur anyway. It's not the language that impacts on the difficulty. But I think in terms of targeting support in an immersion class which is difficult, that it (the test) would be very helpful. But if you could put a bit more background behind what each subtest is trying to identify, for example, this element tests whether a child can hear the rhyme. Make it quite specific. And then within the resources that we have we can say 'right well I could use this to fit that@ or I could make up something myself to try and plug that gap for a child. It would be useful to have a graph or tables with norms like psychologists and support for learning teachers use and you can see if he's above or below or in the middle.

Interview 3   Class Teacher Western Isles Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes.

2. Did the test results corroborate attainment?

Yes they do.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

Primary 3 I think. The class teacher would be best.

4. What do you use to teach phonics?

We use Facal is Fuaim. For reading we have Storyworlds.

5. What do you use to identify pupil's rhyming skills?

Orally for the most part I use rhymes I make up myself.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Years of doing it. I'm very long in the tooth – a year to go to retirement!

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

Yes – the words that they knew, some of the sounds. The Gaelic speakers were familiar with the words.

8. Would you envisage using this test in future years?

Yes I would. A table of norms would be useful.

Interview 4   Class Teacher Western Isles Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes although there weren't too many pupils with difficulties.

2. Did the test results corroborate attainment?

It did – no surprises.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

Primary 2 probably but primary 3 is a really good time to reinforce what you think yourself. The class teacher should do the test. It confirms any opinions you have yourself.

4. What do you use to teach phonics?

We use Storywolds and Facal is Fuaim a little in Primary 3.

5. What do you use to identify pupil's rhyming skills?

It's not really Gaelic rhymes but I'm starting in English you know, they are doing some English now. I give them words they can rhyme and match up and so on. Primary 3 cope alright with rhyming.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Basically by checking spelling and certain words in their reading and writing. It's quite obvious you know if there's phonics mistakes. Learning support is only available in English.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

Yes there is a fluent speaker who came up high clearer with sounds.

8. Would you envisage using this test in future years?

Certainly. I thought it was really good and I would use it. We are very interested if you publish it. You must send us a copy of whatever you sent us before.

Interview 5   Class Teacher   Highland Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes. Yes next steps definitely as some of the things I thought they knew, some sounds they didn't. It was quite good for me to find out what they could actually do.

2. Did the test results corroborate attainment?

Not many struggling in this year but it gave me an idea for a couple of them who need more work on things. It has made quite a difference since I identified them and they've been working on it.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

Primary 2 is perfect especially at that time before Christmas. Even now after Easter the Primary 2s would be much better. The class teacher should do it.

4. What do you use to teach phonics?

We use Facal is Fuaim now and Storyworlds for reading.

5. What do you use to identify pupil's rhyming skills?

Usually just the work I do myself. We use story books and the Highland Literacy Project pack and I quite often look at poetry and rhyming words.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

I made up tests myself. It is really just as I'm going along. I do tend to keep a close eye on them. We are able to do that. I do kind of informal - not tests but things that would indicate where they are or where they should be.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

We haven't got any fluent Gaelic speakers in here. One pupils is further ahead in Gaelic, he has a lot of Gaelic.

8. Would you envisage using this test in future years?

Yes I thought it was really good. They liked doing it. It was really informative.

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

I thought the test was very helpful. It certainly …I went in as a principal teacher and implemented the test not the class teacher, and I found that, by the end of the test, I knew which children knew their sounds, which children knew their blends, which children didn't and I found that very helpful. Well, with regard to sort of being a manager, um, it's allowed me to have a word with my class teacher about the phonics scheme that's being used, when it's being used, how often it's being used, so yeah, from that point of view definitely.

2. Did the test results corroborate attainment?

I think by and large, generally yes. There were a couple of surprises on both sides of the spectrum. There's one child that I expected to struggle with it quite significantly and she did very well.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

I think probably the end of Primary 2 but I thought that there wasn't any harm in using it in Primary 3 as well. I think definitely that for some children it takes a little bit longer for the language learning to take place. There wasn't a significant difference between Primary 2 and Primary 3. but I did find the Primary 3s were a little bit more competent. I don't think it's possible for the class teacher to do it. They don't think it's doable at all. It took quite a long time to do. I suppose if you were only doing one or two children it would be OK.

4. What do you use to teach phonics?

Facal is Fuaim and Storyworlds.

5. What do you use to identify pupil's rhyming skills?

Well the rhyming was really interesting for the kids that did well in the test. I think they had sort of picked that up for themselves. I don't think it's something that we're teaching in Gaelic and I think it's obviously something that we should be teaching but it's slipped through the net a wee bit. After I'd finished the tests I spoke to the class teacher and said to her 'are you using magnetic boards and are you building words up and so on' things that actually I don't think were happening. I definitely

saw that as an identified need. We are not doing enough rhyming in Gaelic. I think we're still in the embryonic stages with the Jolly Phonics actually and I think that maybe in another year or two we'll be better at it.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

I think it depends, I mean in the past I've used a test that was produced I think in Highland Region and it was Measadh Bogadh or something, I can't remember the name of it. I used that but I found that that was possibly more to do with children who were just not using Gaelic, more sort of a general language based thing. In the past I've had a child that I've been specifically concerned about then I've maybe had a word with the Educational Psychologist and they've sort of worked out a little bit with the child before we or a learning support teacher but generally it's very much you've just got to find a way that suits the child and suits the provision. There's nothing you can just lift off the shelf really.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

All our children are learners. There was maybe one or two children who definitely picked up Gaelic more quickly than their peer group and did particularly well. A fair few of the parents are going to Gaelic classes but there's no Gaelic being used in the house.

8. Would you envisage using this test in future years?

I felt it was a useful tool in a general sense and I like the fact that it gave me an insight that I otherwise couldn't have possibly had. I don't know these children the way their class teacher does. So, I think it's actually got uses a little bit wider that the one you describe (i.e. use on one or two children experiencing difficulties).

Interview 7   Class Teacher Western Isles Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes I thought it was quite good for identifying phonological weaknesses. It helped me for homework. When I found out there was a couple of children in my class and they were struggling with initial sounds. They couldn't get it, you know, when I was

asking them to spell a word, they didn't have a clue how to do it so I was able to use that information for their homework and focus in on their sounds going home and words going home.

2. Did the test results corroborate attainment?

Yes. There weren't any surprises.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

I did Primary 2 only but I think it would still be valuable for Primary 3. It would be quite interesting to see. I would quite like to have seen the differences there were. The class teacher should conduct the test.

4. What do you use to teach phonics?

We use Facal is Fuaim and Storyworlds.

5. What do you use to identify pupil's rhyming skills?

Yes. I just use myself orally in class just to get the words and get them to think of words themselves in Gaelic.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Just through following their reading. When they were doing their reading it was plain to see that they weren't able to … they weren't keeping up and I had to, you know, in my Primary 2 class I have to have three separate reading groups with only five children because the reading and spelling tests and things like that, you know, where we were doing spelling tests there were two children in particular who were struggling and couldn't do it. Yes these two struggled with your test too.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

No difference. I had one learner and she wasn't any different.

8. Would you envisage using this test in future years?

Yes I would use it. It was really quite interesting to do actually. I'd have it back to do it definitely. The children didn't seem at all bothered by it anyway. They were absolutely fine with it – they didn't feel under any pressure and one of the boys in particular who I thought would struggle and he did for quite a lot of it, but for one of the bits he did really well. I think it might have been 'finding the rhyme'. You know,

it was quite good to be able to see the things that you thought they might struggle with and they actually did OK in. It was quite a good exercise and I would use it again.

 Interview 8   Head Teacher Western Isles Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes I would say so. It was very straightforward with good instructions. The layout was easy to follow and it quickly identified areas of difficulty. We have used the results to help plan our language better. Some areas needed more practice.

2. Did the test results corroborate attainment?

Results did corroborate attainment. Pretty much as expected. There was one child who is working not quite at the same level as the others, so yes, I would say it confirmed things for me.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

It depends on the age and stage obviously, you know. You would have to apply it at a certain time although as you're well aware, children differ. Some are more numerate at a younger age and some are very fluent in language. So I suppose Primary 2 would be a good time. Some children, I think about our current Primary 1, S. has Primary 1 and she has done a lot of active learning and it has absolutely paid dividends. She felt that what has surprised her most of all is the way that they have attained and their attainment is beyond what she would have expected. But of course, that is a luxury that we probably won't be able to have next year as we'll have a much bigger mix because our roll is falling. So I think for Gaelic-medium where they're talking about total immersion for the first two years, I think active learning in that total immersion is so important, and a curriculum geared to themselves. I think, you know if it were that situation you could do it (the test) at the end of Primary 1 with a lot of children. The class teacher is best. The children are more relaxed with the class teacher. I mean, although children it depends on the conditions of the test and we were kind of scrabbling for time you know. You want it to be quality time. You don't want it to be too rigid. You wanted to take them away from where they

were sitting to make quite sure that they weren't distracted but I think the class teacher is the best person. He or she is best person who knows the child and the child is more comfortable with that person and more likely to perform better.

4. What do you use to teach phonics?

We use Facal is Fuaim and Storyworlds.

5. What do you use to identify pupil's rhyming skills?

The only little rhyme I can remember from my childhood is the one about a slater! They are more obscure and the children won't know them. They are very contrived.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Just through the normal course of reading and just through classroom use of phonics really. I think the test is more specific and obviously has thrown up things that we hadn't realised we were maybe not covering as well.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

No differences. Certainly not in Primary 3. You may have noticed it in Primary 2 and possibly in Primary 1 you would notice that. I don't know with phonological awareness as such but certainly you know with rhyming words and things they have more confidence in the language although they're pretty confident by the end of Primary1.

8. Would you envisage using this test in future years?

Yes I think it would be useful as a benchmark just to say, you know, it's evidence, it will tell us, independent of anything associated with any scheme that is out.

Interview 9   Principal Teacher   Other Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes definitely. It was something completely different to what we've ever done. You know it was good to have something of that nature. Definitely good for planning next steps. Being able to sort of determine where each child needs practice or needs work on or being able to sort of provide programmes of work more to their needs as opposed to just general phonics lessons.

2. Did the test results corroborate attainment?

One was very poor generally so I wasn't surprised that he struggled. He struggles in phonics really and Gaelic language. I had already identified two as being very poor. It was good to sort of, being able to home in on the specific phonological weaknesses as opposed to just sort of more general 'he struggles with reading/ struggles to put sounds together'. I hadn't really done ant sort of determining what…. no formal sort of assessment like that. We had done sort of variations of what you had put together but nothing as formal as that from what we had done ourselves.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

I would say half way through Primary 1 once they've sort of done their initial sounds and some common words. Most of Primary 3 sailed through it. If they made a mistake it was generally just because they had rushed their answers and they got it again when I said it a second time. I think the class teacher's probably the best because they obviously know the children best in terms of their learning.

4. What do you use to teach phonics?

Facal is Fuaim and Storyworlds. I really like Facal is Fuaim.

5. What do you use to identify pupil's rhyming skills?

Along with Storyworlds there are workbooks where rhyme questions are in place. For example, I'm just thinking back to an activity we did yesterday where there was a list of words at the top and there was a table with three different words heading each column. The first one was like *each* and they had to write other words with that same sound like *steach, creach*. Things like that, so there are things that coincide with their reading programme that are already in place. As well as just things you do in lessons. There might not be a specific scheme but you address it in a lesson.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

From the beginning of Primary 1 we introduce a new sound each day using flashcards and various different methodology and you would just get to realise pretty quickly who is not recognising sounds, who can't hear them. Just a general impression you would get, nothing specific set like 'we're going to take out the phonics assessment pack now'.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

All the Gaelic speakers or the ones with Gaelic speaking parents did well. They're probably more used to, from an early age, producing all these sounds and hearing all these sounds regularly and putting them into the context of real world. For example, when they were to repeat *corra-ghritheach* and words like that, you know, some of the non-Gaelic speakers said *corra-gritheach* you know they weren't hearing the *gh*. That came quite easily to the Gaelic speakers; they all knew what the word means whereas a lot of them didn't know what the word meant.

8.Would you envisage using this test in future years?

I would definitely use it. The only sort of issue we had with it was tring to find the time because it was new and I do think the teacher is the best person to do it but you do need one on one with the children to do it. I was just lucky I have a student with me so I got out of class. It's a good thing to show parents as well to say exactly where they're failing or this is exactly what they need addressed, what they should work on rather than just generally saying their phonics is poor. That can be wishy-washy for both the teacher and the parent and I think we are in severe need of guidelines, the teachers as well of how to address learning difficulties in a second language.

Interview 10   Class Teacher   Highland Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes it was quite thorough and I had one child there who we knew had problems but there don't seem to be any tests available for teachers to use to identify what areas they are finding difficulties with. He's Primary 2.

2. Did the test results corroborate attainment?

Yes, those that do well with reading did well with the phonics test.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

Primary 2. They go through the phonics scheme now with Facal is Fuaim in Primary 1 finished by end of January. Primary 2 you are just reinforcing everything they've

been taught already in Primary 1. Ideally a learning support teacher would probably be the best person because they're more qualified and even they have more time out of class to sit with a child and do it because it was very difficult for myself, you know, when you're in the class and that, to find time with them.

4. What do you use to teach phonics?

We use Facal is Fuaim and Storyworlds. I think it is a good scheme.

5. What do you use to identify pupil's rhyming skills?

We've got 'Rannan Gòrach'. We use them. There's new stuff coming into the school so we're just kind of using whatever we can. Anything that is available. Posters that have poetry have been given to us as well. We do writers' craft in school now every second week so we look at rhyme a lot.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

There's no tests. We just go by our experience if a child isn't performing well, you know.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

My children are all learners. We don't have any children who come from Gaelic speaking homes. I've got two children in my class who have one parent who speaks Gaelic but one parent is away a lot of the time. There is no one really. One mother has Gaelic but doesn't speak to him because she doesn't feel confident.

8. Would you envisage using this test in future years?

Yes definitely. It's good just to have something to back up what your gut instinct is, you know, if something is telling you something is not right here. You can have that test to explain to a parent, you know, that we've done this test. It just gives you more backup.

Interview 11   Principal Teacher   Other Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

I think it told me that children were quite well informed. It might help plan specific intervention if there had been anyone with difficulties.

2. Did the test results corroborate attainment?

Yes I would say so.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

I thought the Primary 3s did very well and I think it might have been too easy for some of them. I didn't test Primary 2; it was another teacher who tested them. She found that the children did well. I did Primary 1 and 2 for four years in another school and I think Primary 2s could have coped with the test alright. I found it quite difficult time wise. I think it would be difficult for teachers of say seventeen in a class to do it individually. I had to go and do some of it myself. I think it would be alright if just testing one or two children.

4. What do you use to teach phonics?

We use Facal is Fuaim and Storyworlds.

5. What do you use to identify pupil's rhyming skills?

Rannan Gòrach and Facal is Fuaim. The rhyme is linked to Facal is Fuaim resources.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

I think probably day by day teaching in class. The teaching itself and through recognition of sounds within words and reading. Well, Primary 1 and 2, Facal is Fuaim covers all the sounds. By the end of Primary 2 there should be difficulties highlighted or even before then.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

Well all the children we tested were in the Gaelic-medium unit so I don't know what that means. None of ours have Gaelic at home.

8. Would you envisage using this test in future years?

Well if it's available we probably would use it as I think the Facal is Fuaim resource is very good. It is not an assessment tool but what I have found is that reading has developed better after using the phonics first of all. Then they were ready for reading. If you don't do all the phonics before they start reading then they may have a few problems. You have to make sure the children know their phonics. The test

was pretty straightforward – it's just the time it took to do it (five months). I apologise for that. When will the end result be?

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes definitely. It has helped already with several children. We have been able to identify weaknesses and it's been really helpful for that.

2. Did the test results corroborate attainment?

They did yes. There were a couple who - their needs had come up from ancillary staff and it showed up, you know, when we did the assessment.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

Probably… some of the Primary 2s found it very challenging. The end of Primary 2. I think it's probably the same as all these things; you're actually better having the one person doing it. I think with the best will in the world it does change a bit from person to person. I think the class teacher would be the best. I mean, I'm only working part-time and in most schools your support for learning teacher possibly has only been allocated part-time. And so it takes a long time. It could be used with a couple of pupils you maybe had concerns about.

4. What do you use to teach phonics?

Well, I just use my own programme. I make up my own programme of phonics based on Facal is Fuaim.

5. What do you use to identify pupil's rhyming skills?

I've been given a CD. Up till now I've used something produced by Highland, it's … now I can't think of it. I'd have to go and get it. I got it in a folder. It was D.J. Macleod who produced it. It's not specifically for rhyming. It deals with initial consonants, final consonants. It's separate from Facal is Fuaim. It's just an assessment you would use.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Just as I've said.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

Yes. I actually found the fluent speakers worked through it much quicker.

8. Would you envisage using this test in future years?

Yes because the tests that I use are all in English. The trouble was that I didn't have an equivalent one in Gaelic. But this is probably the best one I've come across. There's nothing in Gaelic that standardises the results. That would be really useful to have that.

Interview 13   Class Teacher Western Isles Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes I think so. Yes it was good. I mean, you pick up so much in the class but it was good to do it in a more structured way.

2. Did the test results corroborate attainment?

Yes it did pretty much. Yes, there was one did better than I expected. The problem with that child is that he needs speech and language therapy. It's actually taken… she's only just started with him though it was requested in term one. It's taken a long time to come through. I've yet to see any results from that but he did well in the test because eh was listening to me say the words rather than trying to say them himself, if I remember rightly.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

Maybe not at the end of Primary 2, maybe about Christmas of primary 2. The class teacher.

4. What do you use to teach phonics?

The new scheme, Facal is Fuaim and we use Storyworlds for reading. Before Facal is Fuaim I did use other things that have been developed over the years in the classroom. I think the difficulty with Gaelic is there's a lot of phonic sounds. Once they know them it's fairly easy for them to read but there's an awful lot of phonics for them to learn. I used Jolly Phonics in mainstream before and when I transferred to Gaelic I was using similar methods to Jolly Phonics that I was making up myself.

I was using a similar set of things with Gaelic. Jolly Phonics worked in English so when I changed to doing Gaelic I thought I would carry on with the same approach.

5. What do you use to identify pupil's rhyming skills?

I suppose when I most talk to them about rhyming is when we're reading together and you've got books like the Gruffalo where you get it in text. So it's usually within the text like that. I'm not aware of specific exercises in rhyming in Gaelic. There's some of it in Storyworlds in the workbooks. You get some exercises with word endings.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Just though class work. In small classes you're doing it with them on a daily basis. Just a general impression. I haven't seen any specific tests.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

No, the ones I tested have all got Gaelic at home.

8. Would you envisage using this test in future years?

Yes. If it's available I would certainly use it. Do you expect us to get a copy of the test?

Interview 14   Support for Learning Teacher   Western Isles Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Oh yes, it was great. I would take the mistakes, the weaknesses that I found and try to work on them. If you just know that the child has a weakness, they might be quite strong in some areas and you could pinpoint areas to work on. I've been working with children who have been in Gaelic-medium but the tests are only in English, you know the dyslexia tests.

2. Did the test results corroborate attainment?

Yes I think so generally they did. Of course, there were so few children in the Primary 2 class. The children I did are not children that I work with you know, they don't receive extra support. There are much worse ones if you like further up the school that are taking up my time.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

Primary 2 most definitely because really about by the end of Primary 1 alarm bells are beginning to ring but to catch them early is the thing. Ideally the class teacher but they often don't have the time and I found that in support for learning I have more time than they have. I think the more you do it the more au fait you are with it. You know what you're looking for and you can put in the resources needed – what there are!

4. What do you use to teach phonics?

Facal is Fuaim and Storyworlds, yes.

5. What do you use to identify pupil's rhyming skills?

Yes they do teach rhyme. Don't know what is used but they do teach rhyme.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Really it was through the class teacher saying they're not making progress, they seem to be struggling.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

No difference really.

8. Would you envisage using this test in future years?

Yes, I think there's a real need for it. I'm just so glad to see something. I've been struggling with working with children in Gaelic-medium where there's nothing. The test was good but one or two things I wrote about – the phoneme blending. Because of the particular words I think they found it hard. I have children in other schools in Gaelic-medium who actually have specific difficulties and there's just nothing. What I found is, the children that I've worked with who have specific difficulty, the class teacher has taken Toe by Toe and translated it into Gaelic, taken the structure using the three ticks. It's the auxiliary that does it – the blends and that. It's been very useful.

Interview 15   Depute Head Teacher Western Isles Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

It would have been quite a useful activity which might have pointed us in the right direction a bit sooner if we had done it a few months earlier. That's my fault for not doing it when you sent it. (Completed May 2009) We did the test a lot later than we should have done. It was quite obvious that a couple struggled. It reinforced what we felt; we knew they had a problem. They were finding it that little bit more difficult. I think maybe it identified weaknesses. It was a good general indicator of where problems might lie.

2. Did the test results corroborate attainment?

As I was using it, what it did was it reinforced what we had already come to the conclusion about, with most of the pupils, you know.   Some of them were obviously quite good but it also highlighted one or two little wee bits that we hadn't picked up on.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

I think from my point of view, I'm not the class teacher although I'm involved with the class, it would have been useful a few months earlier, maybe halfway through Primary 2. Of course I was late getting it done. Pre- Primary 3 probably. It would be quite a good exercise as a check-up test and then using it with individual people whoever had a bit more of a problem with it. I think it would probably be better if it was somebody that knew the children, like myself (depute head teacher) or a learning support teacher. I think it might be quite a useful exercise for the class teacher but I don't think it would really matter. Whoever it was they would be working together. It would help maybe either to back up or to reinforce a teacher's idea or indeed maybe the opposite where a teacher thinks somebody is doing well and somebody else doing the test gets a different perspective. It can corroborate what a class teacher says but can maybe be good if somebody different does it. So I think it wouldn't necessarily matter who did it. I think it could be used effectively both by the class teacher but also by somebody in support. It could be administered by anyone basically- classroom assistant even, a classroom assistant who was

sufficiently aware of what things about. What I mean is, it's straightforward enough to be administered by somebody else. I didn't find that particularly difficult to do at all, providing you know what you're looking for or listening for and things like that.

4. What do you use to teach phonics?

We've started Facal is Fuaim and we use Storyworlds.

5. What do you use to identify pupil's rhyming skills?

I don't think we use anything really.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Basically through observation and listening. You know routine observation. You become aware of when a child is having problems.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

I think the majority of children that were assessed all had some Gaelic before they came in. Don't get me wrong, we've had a number of kids over the years who have come without any Gaelic. But I think in that particular group they all had some Gaelic at home before they came. All went to the croilleagan.

8. Would you envisage using this test in future years?

Yes. I think it could be used. It is quite a useful thing to do. I wondered about it being done in sections. You, know, broken up into different elements at different times, and done in that respect, especially if you use it earlier where it was done as appropriate in its different sections and different aspects of phonics you're looking to test. Let's face it, kids of that age are all developing at different stages anyway. It's something that might be included in its entirety as an end of year sort of whatever, in case there's somebody slipped through the loophole. But as an ongoing thing, as I say, it could be done with individual pupils, with groups, or with individual sections. It was a well thought out pack and looked as though it could be useful. Better copyright it quick; get hold of Storlann before somebody goes and makes a lot of money out of it!

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes it did. We used the results when planning language.

2. Did the test results corroborate attainment?

Yes, on the whole yes. It quickly identified areas of difficulty and also showed where more practice was required. There actually were things that I hadn't picked up on that the test picked up on, especially the rhyming words. It's a lot more difficult in Gaelic than in English. And obviously, you know, I feel as if I haven't done enough of it and it picked up on that.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

I think at the end of Primary 1. Class teachers should do it. I know in other schools they have language assistants and classroom assistants who focus specifically on those needing extra help. I know in my daughter's class that have someone who comes in and does language and she does a lot of the work with them. I think the language assistant would be able to do it as well.

4. What do you use to teach phonics?

Facal is Fuaim and Storyworlds for reading.

5. What do you use to identify pupil's rhyming skills?

 Nothing really. What we do now because of Facal is Fuaim when it comes to the double *ll* or double *nn* we tend to do a wee bit then, you know. We do a wee bit of rhyme using Sruth-Fhacal (word rivers) for alliteration. In Storyworlds, we have used a little bit of that but I don't think we've done enough listening and being able to identify rhymes.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Quite often what we've done with the way Facal is Fuaim is at the end of a set of words we would do a phonics assessment with them. We would just do that and obviously those that were having difficulty with them they could do some for homework or do a bit in class to reinforce them. There's no specific thing just what we've made up in school.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

Yes, with rhyme definitely because I think they hear it much more. But not the rest of the sounds I have to say. I don't think so.

8. Would you envisage using this test in future years?

Yes I would.

Interview 17   Class Teacher   Other Council

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes, probably yes and it was very helpful and easy to administer. It was of the right length.

2. Did the test results corroborate attainment?

Yes definitely. There's been nothing used in the past in Gaelic. Learning support normally do that sort of thing in conjunction with the class teacher. A learning support teacher would probably do it with a pupil anyway but in English and I would get feedback from them. At the moment I really do phonics in English when they come to start reading in English. They normally cope ok when I put them into reading English but the situation has arisen at the moment where we are going to need to go back and do some more phonics with a particular pupil as he hasn't quite picked up the phonics in English and that's the first time I've had to do that. He had a wee bit of difficulty in the Gaelic reading. I noticed a difference – he was one of the one's I tested and I noticed a difference between him and the other pupils. You know there was quite a marked difference between them. Normally they just take to reading English very well but he hasn't picked up on the phonics. With this particular pupil we are going to have to do a wee bit more reinforcement.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

I would probably say primary 3 rather than primary 2. Especially with my situation where none of the children have got Gaelic at home. For them to have enough of a grounding in the Gaelic phonics and such like since they started Gaelic reading and until that is quite well established, it would probably be Primary 3. Probably the

class teacher unless some children have got extra support in their Gaelic and in that case it could be someone like that but I would probably say class teacher.

4. What do you use to teach phonics?

I use 'Facal is Fuaim' and 'Storyworlds'.

5. What do you use to identify pupil's rhyming skills?

I don't know if they are really rhyming but I know there's a series called 'An Sgaoth' which is some phonic support linked with 'Facal is Fuaim'. What it does is if the letter sound is '*ch*' a lot of the words in the text would be '*ch*' words and I think as reinforcement it could lead on from 'Facal is Fuaim'. I've always used 'Storyworlds' and I've carried on using it but I did speak to someone who has been in infants Gaelic-medium for a very long time and heard about it as a good resource. She used it as well as 'Storyworlds' and I was asking her how she used it. She uses it as a fill-in or as a bit of a change from 'Storyworlds' for a wee while. I haven't looked at it in depth but it does look to be quite good. You would possibly use it about Primary 3. You could pick out a sound each week to look at and find a particular sound pattern. I'm thinking about using it.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

Just by their lack of progress in reading, them not coming on as well as the rest. The support for learning teacher would take them away and maybe assess them. I don't use any tests at all.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?

None because none of the children I have come from a Gaelic speaking background; none have any Gaelic at home.

8. Would you envisage using this test in future years?

Yes, definitely. I thought the test was very good and it covered a good variety of areas and tested different skills. It was very thorough.

1. Did you gain sufficient data to identify phonological weaknesses and how would this tool be helpful to you when planning specific intervention?

Yes, certainly you know it was a little taste; it was enough in most cases to see certainly the weaknesses in them, like Initial and Final phoneme deletion. I was quite interesting because it showed the strengths in some for that who had no problems whatsoever. The majority had no problems. It made me kind of home in the areas of weakness as it will help them in the long run. One or two areas a couple struggled with as I'm sure you saw from the sheet.

2. Did the test results corroborate attainment?

Yes, the National Tests are going to be done away with but as long as we are still testing, it's level A by the end of primary 2 or thereabouts. Yes it did because from memory one had a special skill in language and she achieved level A ahead of the others and she did really well in your test.

3. When do you think it would be best to give this test, how should it be conducted and by whom?

I think realistically, probably around the middle of Primary 2, when we did it. Maybe even the beginning of the third term of Primary 2. I think after a year and a half. A lot of pupils that are coming in are complete beginners and you have to do some teaching before you can test them. Except for the time, my first reaction would be the class teacher to carry out the test as the one who knows the pupils well. Unfortunately, we don't have any support for learning in Gaelic. Most schools don't. The test was quite simple for a class teacher once you read up on it. It's important to read the instructions and about it rather than dive in. But yes, it was good to do.

4. What do you use to teach phonics?

It's 'Facal is Fuaim' which I love and the CD 'Factoraidh nam Fuaimean' which is a great whiteboard or Smartboard resource you know with sounds. I think it's equivalent to Jolly Phonics and is really good. Children can practise writing the sounds too. Then you get letter words they have to spell. They use 'Storyworlds' scheme in Gaelic so I start them as soon as I can when they have a good grasp of their sounds.

5. What do you use to identify pupil's rhyming skills?

No, I'm afraid there isn't anything. I don't make anything up but it would be very useful because they find that quite difficult. It's quite a good thing to do as early as possible. 'Rannan Gorach' is too difficult when they come in as complete beginners. It would be nice to have it in a language scheme – appearing more in 'Storyworlds'.

6. Previous to using this test, how did you identify a pupil who you felt was struggling with phonics/reading and how did you deal with them?

It was just the day to day activities and obviously just homing in on that particular difficulty.

7. Were there any noticeable differences in performance between fluent Gaelic speakers and learners?
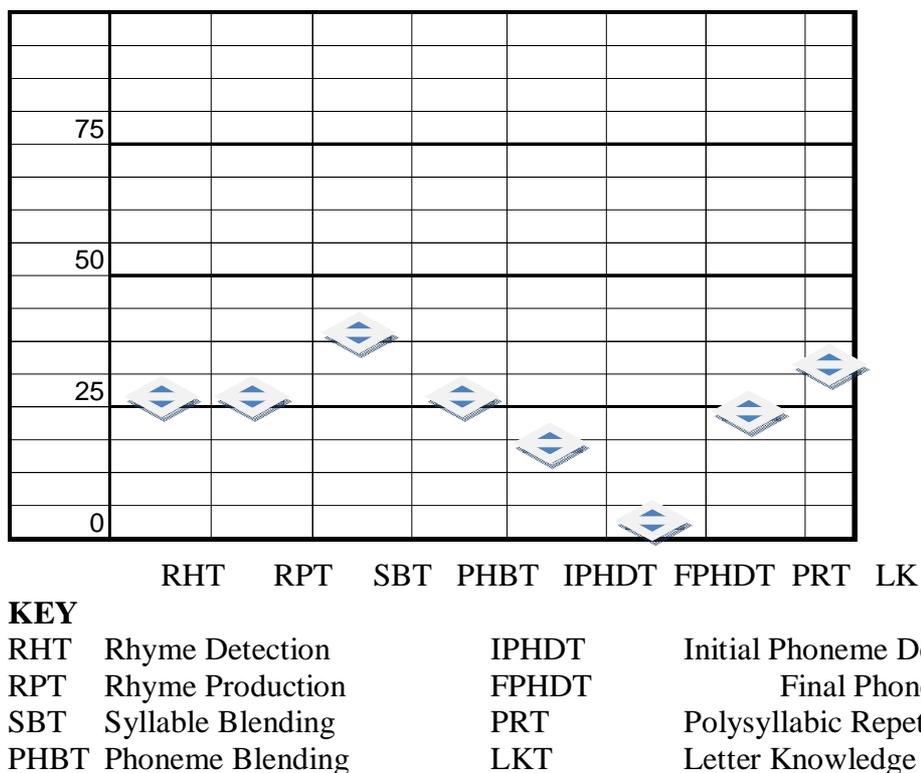
Och yes, I would have to say yes. The fluent speakers were much easier.

8. Would you envisage using this test in future years?

Yes, of course bearing in mind the time factor. I found it was quite interesting because part of it, maybe one or two found it more difficult than you would have expected.

Appendix XVII:

Example of test interpretation

Figure 15. Results profile for Child Z

| | RHT | RPT | SBT | PHBT | IPHDT | FPHDT | PRT | LK |

KEY

RHT	Rhyme Detection	IPHDT	Initial Phoneme Deletion
RPT	Rhyme Production	FPHDT	Final Phoneme Deletion
SBT	Syllable Blending	PRT	Polysyllabic Repetition
PHBT	Phoneme Blending	LKT	Letter Knowledge

Child Z, aged six years and two months, has produced an uneven pattern of scores with all results below an age appropriate level therefore his phonological skills are underdeveloped for a child of his age. He struggled with the more advanced phoneme deletion tasks and the polysyllabic repetition score might indicate an underlying speech and language difficulty. Rhyming games are recommended as well as activities linking sounds with print. Some multisensory phoneme manipulation exercises using foam or magnetic letters can help the child make this link. He should be taught to identify words within sentences, then syllables within words, then phonemes within syllables. This can be done with counters and a row of boxes drawn onto card. Reinforcement of letter sounds should be made on a regular basis. Sequencing games will help with sequential decoding and again these are best to be multisensory.