SLT Assessment and Intervention: Best practice for children and young people in bilingual settings[1]

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Foreword

This chapter is aimed at professionals in Scotland working with children attending Gaelic Medium Education (GME) presenting with speech, language and communication difficulties (SLCD). This typically includes speech and language therapists (SLTs), teachers, education staff and other related professionals. Space restrictions have in places limited the detail which could be included: we have therefore added a large number of references to enable the reader to explore the evidence in greater depth if they so wish. Given the statistical fact that the majority of SLTs working in Scotland will come from a monolingual English background this chapter is written from that perspective. Similarly, reflecting statistical facts, SLTs are referred to as "she" and children seeing SLTs as "he".

Introduction

Language and cultural identity are inextricably linked. English is the most frequently spoken language in Scotland. However, in the last few decades there has been growing interest and support for re-establishing Scottish Gaelic. This has led to the establishment of groups of people dedicated to preserving and re-invigorating the use of their language. The phenomenon is entirely understandable and indeed from a linguistic context entirely commendable but it is important to understand that the preservation of any one particular language is not the remit of the SLT. SLTs are concerned with the 7-10% (Law 2000) of children who are experiencing difficulties communicating. It is therefore appropriate to start this chapter with an examination of the role of the SLT with bilingual children. This also means that we must initially set out what we mean by bilingual in the context of GME.

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Definitions

SLCN and SLCD

Speech, language and communication needs has become a popular term following the UK cross-party Bercow report (2008). However, recent research has shown that the term is not understood in the same way by parents and professionals. Lindsay *et al.* (2010) distinguish between three sub-groups of SLCN. It is children presenting with 'primary speech, language and communication difficulties (SLCD), …where language difficulties occur in the absence of any identified neurodevelopmental or social cause' who are the focus of this chapter.

There may be many children who have SLCN '…associated with limited experiences, typically associated with socio- economic disadvantage' (Lindsay et al. 2010), but these children are not within the remit of *clinical* speech and language therapy interventions. Note that additional language learners may be described as presenting with SLCN caused by insufficient exposure to the additional language, but such individuals are not likely to experience life long difficulties with their (core, central) communication skills (SLCD).

Speech and Language Therapists

'Speech and language therapists (SLT) assess and treat speech, language and communication problems in people of all ages to help them better communicate. They'll also work with people who have eating and swallowing problems.' (NHS Careers, 2014).

'Speech and language therapists (SLTs) are the lead experts regarding communication and swallowing disorders.' (Royal College of Speech and Language Therapists (RCSLT) 2006: 2).

Both these definitions highlight that SLTs work with communication problems or disorders. Indeed '…detailed assessment will facilitate the SLT to reach a differential diagnosis and establish if there is a primary communication difficulty that does not arise as a result of acquiring ….an additional language' (RCSLT 2006). The section concerning bilingualism in professional guidelines specifically states that 'Bilingualism is not a disorder…' (RCSLT 2006: 269).

Therefore, SLTs are not concerned with typically developing bilingual children, especially when the concerns are about the acquisition of additional language skills. Typically developing children will acquire an additional language(s) without specialist intervention.

In the Gaelic medium context this has the following implications. The SLT should consider the following children as clinical cases at the specialist level:

- Children whose first language is Gaelic who experience speech, language and communication difficulties (SLCD) affecting their Gaelic, and any additional languages the child is expected to acquire, such as English
- Children whose first language is English who experience SLCD affecting their English, and any additional languages the child is exposed to such as Gaelic
- Children simultaneously acquiring two languages such as Gaelic and English who experience SLCD affecting both their languages when compared to other bilingual children
- Children whose first language is another community language (such as Punjabi) who experience SLCD affecting their first language, and any additional languages such as Gaelic and English.

The SLT should consider the following children as candidates for further educational support (universal or targeted level, see Gascoigne (2006)), but *not* as clinical cases:

- Children whose first language is Gaelic who have appropriate verbal skills in Gaelic but have yet to successfully acquire an additional language such as English
- Children whose first language is English who have appropriate verbal skills in English but have yet to successfully acquire an additional language such as Gaelic
- Children whose first language is another community language (such as Punjabi) who have appropriate verbal skills in their first language but have yet to successfully acquire an additional language such as Gaelic or English.

The key principle underlying the above is that when a child has shown that they can successfully acquire language skills they must have developed the requisite component skills (semantic, grammatical, pragmatic etc.). These skills may therefore be utilised to acquire additional language(s) given sufficient exposure and the pragmatic need to use an additional language.

Bilingualism

There are many routes to bilingualism and the term bilingualism itself is defined in contrasting ways by different authors (Afasic 2007). It is not the remit of this chapter to explore all these routes and the myriad terminological issues associated with this complex and fascinating topic.

RCSLT (2006) defines bilingualism as ‘individuals or groups of people who acquire communicative skills in more than one language. They acquire these skills with varying degrees of proficiency, in oral and/or written forms, in order

to interact with speakers of one or more languages at home and in society. An individual should be regarded as bilingual regardless of the relative proficiency of the languages understood or used.'

The above definition would therefore incorporate other terms such as 'tri-lingualism' and 'multilingualism'. The definition would also apply to mainly monolingual individuals who have no or minimal experience of an additional language but who are expected to acquire an additional language such as Gaelic.

It is important to highlight that 'As bilingualism does not cause communication disorders there is no reason why bilingual children should have a different rate of speech and language problems from a monolingual population' (RCSLT 2006: 269). Parents and carers may have a false belief that exposure to two (or more) languages has 'confused' their child. They must be reassured that the evidence base does not support such a belief (Baker 2000:79).

Code switching

Bilingual individuals have access to two (or more) languages. When a person changes from one language to another within a conversation, this is known as *codeswitching* (Myers-Scotton 2006, Winford 2002, Duncan 1989, Grosjean 1982).

There are two ways in which an individual may switch languages. The speaker may say a complete spoken sentence in one language and then change (or 'switch') to another language (or 'code') for the next. This is known as *inter-sentential* codeswitching. A speaker may also switch languages *within* a spoken sentence to produce a truly bilingual utterance formed from words and morphemes from two or more languages. This is termed *intra-sentential* codeswitching. Other researchers use the term *intrautterance-code-mixing* '…because children - and adults - seldom speak in complete sentences.' (Genesee *et al.*2004).

'Mixing languages' may be viewed negatively by monolingual listeners and even bilingual speakers themselves may perceive codeswitching as lazy or sloppy speech (Baker 2002, Grosjean 2001). In the past, professionals have claimed that codeswitching is a sign of confusion, language disorder, or at the very least a way of filling in gaps of vocabulary knowledge. This is not the case. Codeswitching is '…constrained by syntactic and morphosyntactic considerations…(Auer 1998). Codeswitching is common and a sign of proficient bilingualism (Muysken 2000). Children's bilingual spoken sentences (intrasentential codeswitched utterances) are often their longest and 'best' spoken sentences, enabling bilingual children to exhibit their true language potential (Pert and Letts 2006). This typically occurs when conversing with other bilinguals as even very young children are aware that certain languages should be used with certain conversational partners (Genesee *et al.* 2004).

Codeswitching varies between speakers and different linguistic communities (Winford 2003). Where codeswitching is frequent and acceptable in adult conversation, it is likely also to occur in children's speech. Since producing a spoken sentence using two languages is a sign of linguistic competence, children who *do not* produce code switched utterances may in fact have difficulties with syntax and grammar. Such children should be considered for further language assessment to test for language difficulties. Typically developing bilingual children's frequency of codeswitching actually increases with age and language ability (Pert 2007). This challenges the view that codeswitching occurs merely because the child is 'plugging a gap' in their additional language with a home language item. Children appear to view comparable lexical items in their two languages as synonyms, and use them as they feel appropriate. There is evidence that children with specific language impairment have much lower frequency of codeswitching and are unable to integrate two languages together in a sophisticated manner (Pert 2007).

Codeswitched bilingual utterances are not simply a random or haphazard 'mixing' of words and morphemes. Codeswitched spoken utterances are constructed using one of the languages as the *frame*. This means that the phrase (word) order will be taken from one of the speaker's languages and will not change even if all the content words are from the speaker's other language. The frame comes first and content words are then inserted into that frame. The speaker will tend to unconsciously use *any* words from their lexicon and from *either* (any) of their languages. This happens in the same way in which a monolingual speaker might use two synonyms interchangeably.

Content words, most frequently nouns, are then inserted into the frame, maintaining the phrase order of the frame language and the integrity of any required morphology. For a detailed discussion of contact linguistics please see Myers-Scotton (2002) and Pert and Letts (2006) for examples from child language.

Code switching is different to lexical borrowing, where words from another language have been completely integrated into the language and are often phonologically and morphologically adapted (e.g. cappuchinos).

Speakers of minority and endangered languages are often concerned with avoiding undue influence from other majority languages and prefer speakers to use what they perceive as a 'pure' form of the language. Even a widely spoken language such as French has the *Académie française* to regulate the language. Such aims are understandable from a community viewpoint when a language may be closely associated with culture and identity.

However, from the child's perspective, the bilingual codeswitched utterance is not consciously labelled by language, and lexical items are viewed as mere content to convey meaning. Correcting such utterances as 'errors' focuses on the 'surface' form of a child's communication, rather than the underlying thematic roles (meaning) and so will have little relevance and impact on the child other than to frustrate them.

It is important to differentiate codeswitching as a strategy to bridge two languages in the very early phase of second language acquisition and true proficient codeswitching. If a child does not know a word in their additional language they may consciously select an analogous word from their home language. Codeswitching a lexical item (typically a noun) from the additional language into the home language is more likely to be of the (unconscious) proficient type (Roseberry-McKibbin 2007: 92).

The clinical implications of codeswitching behaviour in children are important in the advice given to parents, during the assessment process and in delivering therapy. Parents are often advised to use a *one-parent one-language approach* to avoid the child becoming 'confused'. Research has shown that this is frequently unfeasible (as adults code switch themselves and are unaware of the fact) and unnecessary, as children are able to identify which language is appropriate for a conversational partners, topic or situation from a young age (22-26 months of age; Genesee *et al.* 2004)). Parents should be advised to use whichever language they feel appropriate, with the caveat that the child must receive enough exposure to a language in order to have an opportunity to acquire that language. This may be an issue if one parent is the main carer for the child and the other has limited time to interact in their language (Romaine 1995: 186). Other experts have recommended one language in the home and another outside the home (Grosjean 2009), but each method has to be tailored to the unique situation of the family and the languages involved. The main considerations are that children should receive adequate exposure in natural situations, during play and learning activities and in social situations. When the child has an identified SLCD Grojean highlights that 'It is a widespread and erroneous idea, still conveyed by some professionals, that things will improve if parents revert to just one language' (2009: 6). Languages are not an additional load or demand on a child (Malakoff and Hakuta 1991: 141). This is also true when considering children who present with non-fluent speech (stammering) and such children do not have to be advised to use only one language.

During assessment of a child's expressive language, in order to gain the most representative language sample, the child should be assessed by a bilingual professional who the child knows can speak their languages. The environment should ideally not be associated with exclusive single language use. For example, in a Gaelic medium school a child may be less likely to use English as they associate educational activities with Gaelic and not English. An appropriate environment may be achieved by the use of bilingual SLTs or a monolingual SLT with a bilingual interpreter or assistant, and selecting materials and topics which are appropriate to the languages being assessed. The use of codeswitching in the language sample should be carefully analysed to identify if the child has been successful in producing an intact syntactic and grammatical frame.

Assessment of vocabulary should credit the child with a word regardless of which language they have acquired that word in. Children should not be expected to have both words in both languages for all categories. The

concept of an ideal 'balanced' bilingual is unrealistic (Hamers and Blanc 2000: 34-35). For example, school related vocabulary will tend to be better developed in Gaelic if the child attends a GME school. The child should not be corrected for using a codeswitched lexical item.

Comparison of bilingual children's vocabulary growth to monolinguals will always show the bilingual to be less well developed from this perspective. However, when adding together the child's overall vocabulary across both (all) languages, it will be similar to a monolingual child's development. Social and linguistic flexibility convey more advantage to the bilingual speaker than the raw total of words that the child knows (Bialystok, Luk, Peets and Yang 2010, Smithson, Paradis and Nicoladis 2014).

SLCD in a bilingual context

Referral

An obvious pre-cursor to SLT assessment is for the child to be referred to the SLT service. Referrals should be accepted in home language and an access and discharge policy should be written recognising a clear bilingual pathway. There is evidence of both under and over-referral of bilingual children to SLT services (Winter 2001). Over-referral happens when professionals fail to take into account the sum of *all* the skills a bilingual child exhibits when *all* the languages they understand / speak are considered and consider the child's skills in only one language, taking no account of how long the child has been exposed to that language. Under-referral of bilingual children is widely reported in the literature (Crutchley, Botting and Conti-Ramsden 1997, Broomfield and Dodd 2004). There is also evidence that referral patterns for bilingual children vary significantly in comparison to their monolingual peers with speech disorders being under-represented (Stow and Dodd 2005). Departments are encouraged to conduct audits of referrals to ensure that bilingual children are being referred in appropriate numbers (in relation to their representation in the local population) and to take remedial action where appropriate. Such action might include training referral agents to ensure all the languages spoken / heard by a child are considered prior to referral. Good practice is for referral forms to include a section for the referral agent to give information regarding all the languages to which a child is exposed.

Assessment: Case history and parent interview

As with any monolingual child, in order to evaluate the bilingual child in a holistic manner it is important to gather a full profile of the child's developmental history, medical information, educational experience and attainment (if any). This information is usually sourced from discussions with parent(s)/carer, medical professionals such as Health Visitors and Paediatricians and Education Staff. This information may help to identify any

underlying causes of SLCN including sensory impairments (e.g. hearing loss) or learning difficulties.

For the bilingual child in addition to this usual case history, the parental interview should include a language case history. This will cover information about all the languages to which the child is exposed, considering the conversational partners, the language(s) used and the pragmatics of the situation. For example, a bilingual child who speaks English at home and Gaelic at school may use English with his brother for play activities; Gaelic and English with his mother depending on the topic; and Gaelic with his Gaelic speaking teacher.

Language selection is likely to depend heavily on the following factors:

- Conversational partner – the child knows which languages their partner speaks and is unlikely to use a language they do not know
- Activity – including playing games, homework, leisure activities, shopping etc. These activities will be linked to a particular language by either:
    - Topic, e.g. homework set in Gaelic is likely to be discussed in Gaelic
    - Location, e.g. a friend's house where the family are known monolingual English speakers
- Group identity – the expected language may be changed when a group of bilingual speakers are together and wish to speak 'privately' or create a sense of group unity, e.g. speaking Gaelic in a typically English speaking environment.

The language case history will provide a profile of when a child started to talk in each of their languages and, considering their exposure and demand for use of that particular code, how well they have developed their skills. In order to do this the SLT must have a realistic idea of the typical pattern of bilingual language acquisition. This does not mean that the SLT has to rely on normative data. The SLT should be examining the relative development of each of the child's languages and considering if there is any broad deficit which may not be explained by lack of exposure or opportunity to use the language. The SLT must also ask: 'Has this child the appropriate language skills expected from a child of this age and language exposure to communicate effectively in the language situations they face everyday?'

A bilingual child is not two monolingual speakers in one (Grosjean 1982). The SLT must therefore consider the bilingual child's language ability across both/all their languages. If the child has demonstrated sufficient progress considering the input they have received, then they are likely to be a typical language learner.

The pitfalls for the SLT evaluating a bilingual child's language skills are:

- Incorrectly diagnosing insufficient additional language skills as an SLCD – often by considering each of the child's languages in isolation rather than as a whole

- Missing a core SLCD by assigning poor overall language development to bilingualism alone. Bilingualism does not cause or contribute to SLCD and cannot therefore explain overall insufficient language skills.

Assessment: General comments

It has been observed that bilingual children have higher rates of non-response when requested to participate in formal speech and language assessments. Stow and Pert (2006) found that bilingual children did not name all the items on a picture based phonology assessment and several children refused to name any items at all (Stow 2006). SLTs should be aware that previous authors (Wyatt 1998, Wei, Miller, Dodd and Hua 2005) have highlighted the use of silence within some cultures to indicate politeness particularly in the presence of strangers who are viewed as having a higher social position.

SLTs may need to try alternative assessment methods including parental checklists and observation of the child in different familiar settings. Dynamic assessment (assess – teach – reassess cycle) is another form of non-standardised assessment which many SLTs have found useful when working with bilingual children (ASHA 2014).

Setting the scene is important when assessing bilingual children. Grice's Cooperative Principle means that speakers try to adapt to each other to maintain communication. For this reason, bilingual children try to establish which language their conversational partner speaks. Children have been observed to use ethnicity (appearance) as a cue to which language to use (Stow, Pert and Khattab 2012). When such cues are absent or unreliable, children will need to rely on the language(s) they hear in the setting. It is important to signal that both (all) languages are acceptable. The team should engage the child in general conversation and 'settling in' activities using both (all) languages.

However, when assessing the bilingual child, it is important to explain which language is going to be the focus for this particular session. By using one of the child's languages, the input activates the frame of the language in the child's linguistic system (if sufficiently developed). This means that a bilingual child is more likely to use spoken sentences from the language they hear around them. This does not mean that code switching is forbidden and it is likely that individual lexical items from the child's other language may be inserted into the frame.

By assessing each of the bilingual child's languages in separate assessment sessions, the chances of language-specific syntactic and grammatical frames are higher (see Myers-Scotton 2002). The SLT is therefore more likely to elicit a more representative sample of the child's language ability.

If the SLT speaks what is perceived to be the 'prestige' language, the child is likely to attempt to respond in that language. Potentially this will lead the SLT to conclude that the child is dominant in that language. However, this may be

an artefact of the cooperation principle and SLTs should assess both (all) languages to which the child is exposed (RCSLT 2006).

Assessment: Informal and formal direct assessment

SLTs are familiar with assessing aspects of a child's communication skills using convenient toy and/or picture based assessments. Frequently these assessments are compared with checklists, profiles or scoring systems in order to compare the child under examination with the typically developing population. Such assessments are convenient and often reliable, especially when normative data are based on large samples of children over a large age range. Published assessments are available in English for domains such as verbal comprehension, expression, vocabulary development, articulation and phonology. The scores from such standardised assessments are often used to provide a clinical diagnosis and also as entry criteria for different sources of support such as specialist educational provisions.

When assessing a bilingual child, the very premise of these assessments is called into question. Although a few assessments have been adapted and re-standardised on languages other than English, or even developed especially for speakers of other languages, there is still a severe dearth of standardised assessments for speakers of major languages. This situation is even worse for minority language speakers.

Many professionals point to the development of assessments in other languages and comment that when there are assessments available for a range of languages then it will be easy to assess a bilingual child. Such commentators forget that even where non-English standardised data exists, it is frequently based on monolingual speakers of a language. By definition, bilingual speakers are not monolingual speakers of either (any) of their languages.

Translating assessment materials means that much is lost or altered by the act of translation. Languages do not encode concepts and grammatical relationships in the same way. Even basic syntax may differ. Scoring a translated assessment is therefore meaningless. Speech sounds inventories will be different, as well as phoneme distribution and development.

For these reasons, and in line with professional guidelines, it is important that scores developed on a monolingual population are never used to diagnose SLCD in a bilingual child: '…there is risk…if normative data that has been developed with monolingual populations is applied to bilingual populations…' (RCSLT 2006:270).

In order to assess a bilingual child in an unbiased manner, materials should be used which examine speech and language skills appropriate to the child's age and experience. Such assessments, especially for language will be descriptive and provide a language sample which will hopefully include a range of spoken sentence structures.

There is relatively little known about typical Gaelic language development, especially in the bilingual context and also little known about SLCD patterns in Gaelic speaking children (Donaldson 2014). Ultimately, the development of both monolingual and bilingual data sets for assessments developed in a culturally sensitive manner should be funded. In the meantime, as recommended by professional guidelines, 'where standardized assessments are not available SLTs should make use of informal assessments and observation' (RCSLT SIG Bilingualism 2007: 11).
Individual SLTs and services may therefore wish to develop their own informal assessments for the purposes of:

- Gathering a language sample
- Compare the child's performance with any known developmental checklists / compare with typically developing bilingual children
- Set therapy targets based on needs and strengths
- Re-test the child after period of time to evaluate the child's performance against their predicated progress
- Re-test the child following input and compare with their own baseline.

Assessment: Verbal comprehension

Traditionally this domain is assessed by SLTs prior to expressive language and it is widely thought that comprehension skills are a prerequisite to the development of expressive language skills. Recent research suggests that the picture is more complex and that comprehension and expression develop interactively and are not as easily separated as previously thought (Hendriks and Spenader 2006, Ambridge and Lieven 2011, McKean *et al*. 2012). Children may therefore be able to use constructions which they cannot yet reliably understand. The situation and context of the comprehension task is also important, as well as the child's motivation and attention at the time of testing.

Discontinuation rules for some standardised assessments may give misleading results and the child should have an opportunity to complete the full assessment procedure. It has been observed that bilingual children may fail 'easier' concepts and structures on the *Test for Reception of Grammar* (Bishop 2003) and yet go onto demonstrate understanding of more 'complex' grammatical structures (Quinn 2001). This may be because they have only encountered 'easier' structures in their first language and more 'complex' structures later on in their additional language. For these reasons the SLT should be cautious of relying on simple comprehension activities as a valid measure of the child's comprehension.

Observation of the child's responses in an educational and home setting may give more insight into their ability to understand in real situations involving pragmatic as well as linguistic interpretation skills (Bishop and Adams 1992).

Should the SLT wish to assess the child's comprehension skills in a more traditional manner in a clinic setting, it is essential that the task is carried out

in both (all) the languages to which the child is exposed. Objects or picture materials should be familiar to the child and consideration given to using less formal, more normal utterances in place of the often over-formalised and less frequently heard spoken requests used in many published assessments (Riches 2014).

Many SLTs are familiar with describing a child's comprehension skills in terms of the number of *information carrying words* (Knowles and Masidlover 1982). This concept relies on the very sparse morphology of English and rarely translates to other more morphologically rich languages, e.g. in Mirpuri (a Pakistani heritage language).

Table 1. Example of the translation of a morphologically impoverished language into a relatively morphologically rich language

English question:	Who's **eating**? (one information carrying word - action)		
Mirpuri translation:	kira	**ka**-na	pia
Literal translation:	which-one + male gender inflection	eat-ing + male gender inflection	is + male gender inflection

When translated into Mirpuri it is no longer possible to speak of one word to one piece of information correspondence. Note that the question word 'kira' is both a question and indicates that the speaker is asking about a boy or a man; the verb carries an obligatory gender ending indicating present tense and the gender of the person carrying out the action; and the auxiliary is similarly encoded with two pieces of information. In summary, the English question is a one information carrying word instruction and the Mirpuri is arguably a six information carrying *morpheme* instruction. In addition, in this example the SLT would have to ensure that all the action pictures used were of males in order to avoid giving away clues from the question (which obliges the use of a male or female question word).

The pitfalls of translating even this very simple question are obvious and these pitfalls are discussed, briefly, below in the section on translation.

Assessment: Expression

All expressive language assessments should include activities, objects and people wearing clothing that children recognise and are familiar with from their own daily lives. This is especially important for bilingual children who may link certain activities to one of their languages. Thus in the context of GME a child shown a picture of a teacher in front of a class is more likely to respond in Gaelic than in their home language.

Informal picture assessments should aim to include a range of concepts and grammatical structures which are relevant to the child and which the child is likely to use on a daily basis.

SLTs are used to the concept of informal assessment. Given the dearth of assessments specifically designed for the use with bilingual children, informal assessment is essential. Informal assessment does not imply casual recording; the transcription of expressive language involves meticulous notation and a systematic translation protocol. Recording, translating and analysing spoken utterances accurately is crucial to the assessment of the bilingual child's expressive language ability.

It is strongly recommended that the original language sample is recorded where possible using a digital audio or audio-visual recorder. This will involve gaining consent from the parent(s)/carer for young children and where appropriate from the young person themselves. All recordings should be securely stored and any local and national policies and procedures carefully adhered to.

Translation is at the heart of linguistic analysis and is perhaps the most technically complex activity in the assessment of bilingual speakers. The SLT has a role in making the translation process transparent in order to ensure that artefacts of translation are not misconstrued as errors or omissions on the part of the bilingual speaker.

Translation

There is insufficient space within this chapter to discuss all the complexities of translation. However, we will highlight some key aspects.

The language sample should be transcribed by a person or persons with the following skills:

1. Native or near native language ability in both (all) of the languages used within the language sample
2. Knowledge of linguistic analysis, syntax and morphology
3. Knowledge of code switching analysis

This may be a bilingual SLT, or more commonly a monolingual SLT working alongside a bilingual translation professional such as a translator, interpreter or bilingual assistant. Within the context of GME it is likely that the translation will be provided by an education professional working in a GME school, or a parent. The role of the SLT is to assist in the translation process to gain the most accurate picture of the child's abilities.

It is suggested that a five-line translation grid (see Table 2 on the next page) is used in order to preserve the child's original utterance and to make the stages of translation transparent. The *source language* is the language in which the child's utterance was spoken. The *target language* is the language the utterance is being translated into. Note that the words 'source' and 'target' are the terms used by linguists in the context of translation and should not be confused with 'target of therapy' or similar terms.

Table 2. Translation protocol	
Expected utterance:	*The expected sentence*
Child's utterance:	*Transcribe using standard orthography or preferably IPA script directly from a recording*
Word-by-word (morpheme-by-morpheme) translation:	*Write a direct translation of the lexical aspects and any grammatical aspects directly under each morpheme, maintaining the word/phrase order of the original utterance*
Final translation:	*The word/phrase order is transposed to the target language*
Comments:	*Notation on code switching and other aspects of note such as what the child has omitted, errors of frame etc.*

Table 3 is an example from Mirpuri. This spoken utterance was produced by a 5;00 year old boy who was a bilingual Mirpuri-English speaker. The frame of his utterance is Mirpuri, but he is beginning to insert English verbs and nouns. The fact that he can code switch and maintain the grammar and word order of the Mirpuri frame shows that he is developing typically for a bilingual child. This child was not a candidate for speech and language therapy intervention.

Table 3. Example of an intrasentential codeswitched bilingual utterance translated using the translation protocol: Typical codeswitching

Expected utterance:	jena *man*	siri *ladder*	cher-na *climb + present progressive + male gender inflection*		pija *is + male gender inflection*
Child's utterance:	man	ladder-s	climb	kar-na	pija
Word-by-word (morpheme-by-morpheme) translation:	(a / the) (E) man	(E) ladder-s	(E) climb	do-ing + male inflection	is + male gender inflection
Final translation:	(the) man is climbing ladders				
Comments:	1. Mirpuri word/phrase order correctly produced 2. The determiners 'a' and 'the' do not have analogues in Mirpuri and are therefore not 'omitted'. 3. Code switching: a. Appropriate code switching of verb into English by using the dummy verb 'do' ('kar') to carry the obligatory male gender inflection ('-na') to agree with the agent ('jena' - man) b. Appropriate code switching of the nouns 'man' and 'ladders' and these code switched items didn't influence the word/phrase order 4. No syntactic or grammar errors in this utterance				
Key:	(E) = produced in English in the source () = denotes an inferred word in the final translation				

Table 4 is an example from a language sample provided by a 5 years 11 months old boy who attended a language unit. Although he had made progress in his mean length of utterance, he still made grammatical errors. Note that a direct translation of the utterance would not highlight the incorrect gender agreement problem as there is no analogue in English.

Table 4. Example of an utterance translated using the translation protocol: Morphological error

Expected utterance:	jenani *lady*	kitab *newspaper /book*	par-ni *read + present progressive + female gender inflection*		pi *is + female gender inflection*
Child's utterance:	jenani	kitab	par-ni		pi-ja
Word-by-word (morpheme-by-morpheme) translation:	(a / the) lady / woman	newspaper	read	ing + female inflection	is + *male gender inflection
Final translation:	(the / a) woman is reading (the / a) newspaper				
Comments:	1. Mirpuri word/phrase order correctly produced 2. The determiners 'a' and 'the' do not have analogues in Mirpuri and are therefore not 'omitted'. 3. Code switching: None 4. Correct gender inflection on the lexical verb 'read' (par) but incorrect male gender agreement on the auxiliary verb 'pi' 5. Grammatical morpheme agreement error in this utterance – child may have learnt the use of the male auxiliary 'pija' by rote and not yet checking the agreement with the gender of the agent.				
Key:	* denotes an error in the child's utterance				

Although this procedure may appear lengthy / complex, these examples demonstrate that only keeping a record of online translation (i.e. writing down a translation of what the child said as he said it) would have lost the richness of data and the ability to discuss and consider in-depth the child's verbal output.

Research suggests that typically developing bilingual children do not make gross syntactic and grammatical errors beyond the age when most children have mastered spoken grammar skills (Pert and Letts 2006). The SLT should not make allowances for bilingual children solely on the basis that they are learning two or more languages.

O'Toole and Hickey stated that bilingual children with SLI appear to use levels of code switching that are higher than would be expected (2012), with some children adding (Irish) inflections directly to (English) verbs. They viewed this as problematic. It is important to distinguish normal codeswitching behaviours from impaired patterns. Where children maintain an acceptable monolingual frame and the grammar is maintained, verbs and nouns may be inserted from another language (with verbs often underspecified and used as nouns). In contrast, children with impairments fail to integrate two languages together satisfactorily and often violate the frame. However, the use of lexical items and their frequency is irrelevant; it is the manner of the integration that is crucial.

While educators and parents working to support and encourage the use of Gaelic are understandably concerned on hearing a high frequency of English lexical items inserted into Gaelic utterances, the SLT's role is not to encourage a child to use only Gaelic lexical items. Rather it is the syntactic and grammatical aspects which should be of concern.

Assessment: Speech

Speech assessment examines the areas of articulation and phonology. Phonology may include output and phonological awareness. For SLTs, it is the spoken and aural aspects of this domain that are of clinical interest. This section will therefore not include any comments on the orthography and links between speech sound development and literacy. The SLT does however have a role in advising on the teaching of literacy to children where they are experiencing articulation and phonological impairments.

There is increasing evidence to support the hypothesis that bilingual children have separate phonological systems for each of their languages. Vihman (1996) reported infants hearing more than one language (i.e. in a bilingual context) demonstrated language specific babbling vocalizations by 10 months. Studies of older bilingual children learning a variety of language combinations (eg. Dodd, Holm and Li Wei 1997; Holm and Dodd 1999; Holm, Dodd, Stow and Pert 1999; Monroe, Ball, Muller, Duckworth, Lyddy 2005) have reported evidence of:

- Contradictory error patterns (for example fronting a phoneme in one language and backing it in another)
- A phoneme acquired in one language but not the other
- Phonemes specific to one language were not used in the other, evidence that the children were aware of the constraints of each language's phonological system.

For the speech and language therapist, knowledge of both normal developmental patterns and the nature of disordered patterns is essential in order to reach a clinical diagnosis and to inform treatment decisions. In addition to having information regarding the age of acquisition of phonemes clinicians working with children with speech disorders also need to have information regarding the pattern of phonological error patterns observed as normal development occurs in a language. If no such data are available the bilingual child is at risk of being diagnosed as having a disorder on the basis of error patterns which are atypical in monolingual children but which may be normal in conditions of bilingual acquisition. Data will help facilitate application of the labels delay and disorder, which in turn can influence the type and amount of intervention. However, few norms are available for the acquisition of phonology in languages other than English and fewer still outline acquisition in a bilingual context.

There is evidence in the literature that bilingual children make phonological errors which would be viewed as atypical in monolingual children speaking the same language. Watson (1991:44) suggested that 'the bilingual may have two systems, but which differ in some way from those of monolinguals'.

The classification of speech disorders

Children with speech disorders do not form a homogeneous group. In recent years several authors have suggested differing methods for classifying children with speech disorders in to a variety of sub-groups. These differing methodologies take into account factors such as age of onset, severity, aetiology and a description of symptoms. Assignation to such a sub-group may then have implications for types of therapeutic intervention and outcome.

Dodd (1995, 2005) developed a classification system with psycholinguistic underpinnings which is based on the symptoms observed in the child's presenting speech. She proposed that children with functional speech disorder could be classified into four sub-groups:

- **Articulation disorder**
  Children with a phonetic disorder who consistently produce a target sound with the same substitution or distortion, irrespective of phonetic context

- **Phonological delay**
  The error patterns observed in a child occur during normal development but are typical of younger children

- **Consistent phonological disorder**
  Consistent use of one or more non-developmental error patterns

- **Inconsistent phonological disorder**
  The chid has multiple error forms for the same lexical item. The child's phonological systems show at least 40% variability.

There is a growing body of evidence that confirms the existence of these sub-groups within groups of children who are monolingual English as well as bilingual speakers (Holm *et al* 1999, Broomfield and Dodd 2004b, So and Leung 2006, Yavas and Goldstein 2006) and evidence is emerging for monolingual English speakers that different therapeutic interventions and techniques are appropriate and effective for each subgroup (Crosbie, Holm and Dodd 2005). In bilingual speakers it has been noted that children with speech disorder have the same *type* of disorder in both languages, no child having yet been described who has a delay in one language and a disordered pattern in another. Surface error patterns reflecting this disorder may, however, differ in each language (Holm and Dodd 2001).

The increasing evidence that bilingual children develop separate phonological systems for each language has inevitable consequences for the speech and language therapist assessing a bilingual child with suspected speech disorder. It is essential to assess all the languages a child speaks and then compare the child's performance to normative data derived from bilingual children speaking the same language combination. This is reflected in professional guidelines (RCSLT 2006:270) which state "there is also risk if normative data which has been developed with monolingual populations is applied to bilingual individuals" but will prove challenging within the context of GME where few data are available regarding the development of Gaelic and other languages.

Therapists working within a GME context are advised to use existing assessments of English to gather data regarding a child's skills in English. Caution should be demonstrated when comparing the child's performance to any normative data which may have been developed with only monolingual English speaking children. The child's skills in the other languages they speak should then be assessed following the same principles outlined above i.e. ensure that the correct language environment is set before embarking on the assessment by, for example, assessing only one language, not multiple languages in a session. It is also advised that using different pictures when attempting to elicit the word for the same item will help facilitate the child to stay in the target language: if the child sees a picture he has previously been asked to name in English when he is now being asked to name in Gaelic he may be triggered to revert to English output. SLTs have the knowledge needed to develop their own speech sound assessments when encountering a language for which there is no published assessment. The development of such an assessment is described in Stow (2006: 133-138).

Recommendations and Language Therapy

RCSLT guidelines clearly state that the SLT should provide '…intervention in the individual's mother tongue and support the family in their use of mother tongue when necessary/appropriate, ie when it is the individual's preferred/dominant language. Language choice should be agreed with families. With regard to children, the evidence base demonstrates both the need for mother tongue therapy in cases of speech disorder and the efficacy

of therapeutic intervention in the individual's mother tongue in language delay and disorder' (RCSLT 2006: 269).

It is important not to focus on the child's current skills set and use only the areas of strength as this often presents a misleading profile of the child. For example, SLTs may argue that what appears to be the child's dominant language should be used for therapy. This decision may be incorrect if the 'dominant language' is established through assessment which has overtly or covertly signalled to the child that a particular language is favoured. This may happen if assessment has been undertaken which strongly signals that one of the languages is required (see above). In addition, children with SLCD may have missed early language acquisition opportunities (at home) and then started to acquire skills later (at school). The child's profile may then show that their additional language is 'dominant' when actually the profile merely shows that they have taken a longer time to commence expressive language use, and they wish to speak like their peers in a monolingual environment. Given sufficient support, their bilingualism will often flourish.

The child's parent(s)/carer may also feel obliged to favour a language for therapy without understanding the implications of their choice. This is especially true if the language of education is different to the language of the home. Education is highly valued and parents may express a wish to use only the additional language, even if they do not speak it very well, in order to boost their child's school performance. Research shows that children with a well developed home language are better at acquiring additional languages, and so therapy should be encouraged in the home language initially.

It is also likely that the home language is the best language model for the child, as this is the language the parent knows best. Parents attempting to use an additional language may provide less than ideal input for their child.

Parent's should be asked to consider what they wish for the *endpoint* of their child's care, i.e. when your child is a young adult, do you wish them to be bilingual or monolingual? Are you happy if your child is unable to speak one of their languages to members of the extended family or community? RCSLT guidelines highlight that 'Bilingual individuals may be vulnerable to well-meaning, but ill-informed, professionals who advise the abandonment of mother tongue in order to facilitate the development of skills in English' (2006: 270). For English mother-tongue children in the context of GME, this means that SLTs should support the development of the child's mother tongue (English) and *not* recommend that English be abandoned in order to support the development of Gaelic as an additional language.

Table 5. Language of therapy – Main categories		
Home language	Language of school	Recommended language of therapy sequence
Bilingual and potentially bilingual children		
Main carer Gaelic speaker English spoken by parent/family member(s)	Gaelic	Gaelic (then English where appropriate)
Gaelic	English	Gaelic (then English where appropriate)
English	Gaelic	English (then Gaelic where appropriate)
Main carer English speaker Gaelic spoken by other parent/family member(s)	Gaelic	English (consider Gaelic targets simultaneously with other parent/family member)
Main carer Gaelic speaker English spoken by parent/family member(s)	English	Gaelic (consider English targets simultaneously with other parent/family member)
Main carer community heritage language, e.g. Punjabi English spoken by parent/family member(s)	Gaelic or English	Heritage language (consider targets in the language of education simultaneously with other parent/family member)
Monolingual children in a bilingual context		
Gaelic monolingual speaking family	Gaelic	Gaelic
English monolingual speaking family	English	English
Community heritage language monolingual family (e.g. Punjabi)	Gaelic or English	Heritage language (consider targets in the language of education simultaneously with other parent/family member)
This table is a guide and language choice of therapy should be considered with the family in informed, shared decision-making.		

GME schools may wish the child to receive therapy input in Gaelic in the belief that this will help the child to communicate in the school environment, engage with his peers and fit in with the ethos of the school. SLTs should

remember that they are not teachers of additional languages. This means that SLTs should recommend the language of therapy that has:

- The best evidence of success – home language
- The best language model from the main carer – home language
- The best long term outcome for additional language learning – establishing a strong home language

Therapy in home language (e.g. English) *does not* preclude the child from engaging in everyday lessons in Gaelic.

A written care plan should be written in collaboration with the parent(s)/carer specifying the speech and/or language therapy aims. This should specify the language in which the therapy will be provided and that the child must be successful in their home language prior to attempting the same targets in their additional language. Ideally the staff expected to provide support should be agreed and named and resources identified, along with the 'dose' (number of minutes per session and number of sessions per week). The agreed support is important, as the amount of input is crucial to maintaining success.

For young children, parent-child interaction (PCI) is often recommended as a way of evaluating language input and as a means of delivering therapy via guidance and modelling from the SLT. When considering bilingual children the SLT should consider:

- If the PCI method is suitable for the family. Some cultures do not consider children to be suitable conversational partners and may have very different styles of interaction. The child may expect to remain silent and follow the adult lead and adults may be more comfortable with a directive rather than a child-led style. Although it is one of the aims of PCI to change a parent's style to be more child-led (in line with current monolingual, English child rearing practice), the strength of the cultural heritage may make this unacceptable or very difficult and other more direct therapy delivery options may prove more effective. There is evidence that clinic-based direct therapy is as effective (and less expensive) than some forms of PCI (Baxendale and Hesketh 2003)
- The balance of language(s) as each parent may have different languages and varying skills levels in their respective languages.

Programme delivered by TAs and others

SLTs are responsible for any delegated practice. The SLT must therefore ensure that therapy targets and therapy support techniques are implemented correctly. Teaching assistants, translators and parents may not be aware of phonological and linguistic theory, or how to provide appropriate support such as cues and remodelling. It is therefore important that the SLT observe and supervise initial session(s) to check that the person delivering therapy has understood and can successfully apply the therapy programme.

Therapy for speech disorders: Implications of separate systems for therapeutic intervention

Intervention studies investigating therapy with bilingual children who have speech sound errors (see for example Holm, Dodd and Ozanne 1997, Holm and Dodd 1999, Holm and Dodd 2001, Stow 2006) have focussed on whether therapy delivered in one of the child's languages transferred to the other language. The studies concluded that therapy for *articulatory errors* (that is, errors resulting from a deficit of motor programming) delivered in one language *would* transfer and affect the child's production in their other language. In contrast, therapy for surface level features of a *phonological disorder did not* show any cross language generalisation.

In practice within the context of GME this means that once the SLT has identified a phonological disorder in Gaelic, therapy will need to be delivered in that language. If a monolingual English speaker, the SLT will have to involve GME workers and parents, where appropriate. Having identified the sounds which need to be targeted in therapy the SLT can draw up word lists with the target phoneme occurring in different word positions. Non-SLTs can find it surprisingly hard to provide appropriate word lists, frequently confusing orthography with the spoken realisation. For example, in English parents asked to produce a word list for the sound /s/ frequently include the word "sugar" where the written "s" is in fact produced as "sh". SLTs may ask parent(s)/carers to look through a set of picture cards, naming them aloud. The SLT can then transcribe the proposed word using the International Phonetic Alphabet (IPA) notation. This will ensure that the target phoneme(s) are accurately represented within the selected word.

Summary

The overarching aim of intervention with any child with SLCD is to facilitate the child to use their speech, language and communication skills to their maximum potential. Bilingual children are no different. It is important to remember that typically developing bilingual children are on a trajectory that brings them to the endpoint of confident bilingualism. This is therefore the aim for bilingual children with SLCD.

The evidence base on bilingualism clearly shows that for both typical learners and those with SLCD, those children who have 'cracked the code' for one language are very well equipped with the phonological and linguistic skills to acquire an additional language. For this reason, there is a strong indication that home language is the best language to select for therapeutic input.

The social and cultural aspects of bilingualism are extremely important, not only for the bilingual individual but for the whole community. Bilingual communities are often misunderstood by monolingual communities, and minority language communities have to promote and keep alive their language and culture.

The aims of the bilingual community and the SLT can work together in harmony. However, the SLT must ensure that the bilingual child with SLCD and their family are supported in the best way possible over the medium to long term. This may mean supporting the family to use the home language, such as English, with the long-term aim of acquiring Gaelic as an additional language. The provision of therapy in English (or another community language such as Punjabi where appropriate) does not preclude the child from engaging in GME on a daily basis. The use of the evidence base applied correctly should mean that the bilingual child with SLCD should progress in both their home language and Gaelic as effectively and quickly as possible. RCSLT guidelines do recognise that '…bilingualism… is an advantage' (2006: 270).

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