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Article:

Translanguaging, learning and teaching in deaf education

Abstract

This paper critiques the role of translanguaging in deaf education by examining how, and under what conditions, translanguaging practices can enhance learning and teaching. The paper explores the premise that translanguaging represents an additive view of bilingualism and multilingualism for deaf learners and offers an innovative departure from, and not a re-packing of, traditional teaching methods in deaf education. In this context the additive aspects of translanguaging are conceptualized as ways of seeing and responding to the language resources of deaf learners and ways of teaching that recognise and promote bilingual and multilingual (sign and spoken/written) language skills. The innovative aspects of translanguaging are explained in terms of the focus on language as a social phenomenon, the emphasis on individual repertoires, and attention to the mindful use of languages in the classroom. Examples of learner and teacher translanguaging are given that illustrate what translanguaging offers to deaf education in terms of understanding and supporting the language repertoires of deaf learners and for the development of pedagogy. The paper concludes by suggesting the conditions under which these benefits can be realised.

Key words: deaf education, translanguaging, languaging, bilingual, bimodal, multilingual

Introduction

The theory and practice of translanguaging came into being in bilingual classrooms in Wales in the United Kingdom in the 1990s (Williams, 1994, 1996). The inception of this work was driven by an endeavor to promote the use of Welsh, as a minority language, in the classroom and to understand how communication practices among bilingual learners and their teachers can facilitate learning (Baker, 2001, 2006). Since that time the term 'translanguaging' has gained increasing currency in the wider field of multilingualism as an additive view of bilingualism where the acquisition of a second or additional language is seen as beneficial and not detrimental to the language user and to the other languages in play. This view also recognizes the different ways in which individuals flexibly use their language resources to make meaning (García & Leiva, 2014; Jørgensen, Karrebæk, Madsen, & Møller, 2011).

The concept of translanguaging has since begun to be mentioned in the context of deaf education with reference to the use of sign, spoken and written language in the classroom by deaf learners and their teachers (García, 2009; Lewis, Jones, & Baker, 2012a). This is seen by some as a positive step toward understanding the language repertoires and potential of deaf learners, and enhancing bilingual deaf education provision (Swanwick, 2016b). However, there are also concerns that translanguaging will promote the development of the spoken language of the majority community in the classroom rather than support and validate the use of sign language, and that this practice encourages the manipulation of sign language by educators of the deaf and the uncritical mixed use of sign and spoken language (Snoddon, 2017).

These concerns echo those expressed in spoken bilingual language research where the concept of translanguaging is seen as a threat to the integrity of labelled languages and language varieties that are important for minority language groups (Canagarajah, 2013). Exporting this concept to the deaf education context where sign language development has not been universally valued or supported is thus problematic. Furthermore, for deaf learners the lack of early access to fluent sign language users and to the spoken language of the environment compromises the development of bilingual skills (Knoors & Marschark, 2012). Translanguaging can be seen to perpetuate rather than alleviate this disadvantage.

This paper seeks to reconcile the potential of translanguaging theory and practice in deaf education with these associated problems by firstly examining what translanguaging brings to deaf education that is additive, in terms of recognising the strengths and potential of bilingualism. Secondly, the innovative aspects of translanguaging are explored in terms of approaches to classroom practice. Examples of translanguaging by learners and teachers are

used to illustrate the linguistic possibilities of translanguaging available to deaf learners and their teachers and the features of translanguaging that are unique to this context. The conclusion considers the strengths and weaknesses of translanguaging theory and practice for deaf education, suggesting the conditions under which translanguaging can be considered additive and innovative but where caution is needed.

Terminology

Throughout this discussion the term 'deaf' is used to refer to individuals who use sign, spoken and/or written language in their daily lives regardless of their level of hearing loss, accepting that this encompasses a diverse and heterogeneous group with varying and dynamic sign, spoken and written language practices. Audiological descriptors, in the context of this paper, are not considered to be relevant for categorising or grouping deaf learners. Instead the focus is on school-aged children with bimodal and bi/multilingual language repertoires.

The use of the term bimodal communicates the fact that the reception and production of sign language and spoken language takes place through different channels: sign language deploys primarily the use of vision and gesture, whereas spoken language relies on audition and voice. The two languages are thus articulated and received through (two) different modes, as distinct from unimodal bilingualism, where there is a shared modality (De Quadros, Lillo-Martin, & Pichler, 2016). Most spoken languages have a written form this additional and multimodal aspect of sign and spoken language communication is acknowledged by using spoken/written where this is relevant. Concepts of multimodality are fully discussed elsewhere in this issue (Kusters, Spotti, Tapio, & Swanwick, 2017). The convention bi/multilingual acknowledges that some deaf learners will experience and use more than one sign or spoken language in particular contexts, particularly those from multilingual homes and communities.

Translanguaging

Translanguaging is one of a number of terms that has gathered momentum in the discourse of bilingual and multilingual research that represents a shift away from defining language use in terms of separate languages to recognising that individuals draw on a range of language resources to make meaning, without adherence to (named) language boundaries and according to the social circumstances (Heller, 2007; Makoni & Pennycook, 2006; Otheguy, García, & Reid, 2015). Translanguaging describes an individual's fluid language practices that are transformative in that they afford new ways of being, or acting socially, in the world with others (Blackledge & Creese, 2017).

The same claims are made for the term polylingualism that also describes the way in which individuals creatively use linguistic resources or 'features' at their disposal to make meaning, regardless of language conventions (Jørgensen, 2008; Jørgensen et al., 2011). Polylingualism offers an extension to concepts of multilingualism and bilingualism that describes instead a collection of linguistic features that are not discrete or complete in themselves (Jørgensen, 2008, p. 169).

Metrolingualism similarly describes the creative uses of different linguistic features but with a particular focus on meaning-making among ethnic or cultural groups that share an urban environment (Pennycook & Otsuji, 2015). Studies of metrolingual practices that focus on language use in a particular environment have contributed a spatial dimension to discussions of the language practices of plurilingual individuals and communities by taking a broader view of the meaning-making potential of materials, objects, communicative conventions and ways of self-expression associated with particular linguistic landscapes (Pennycook, 2017).

Common to all of these concepts is the focus on language as a social activity and everyday communication; that is, the actual and observable ways of using language (Jørgensen et al 2011). This perspective does not dismiss the notion of languages as separate entities or devalue the focus on individual languages as one layer of analysis in terms of multilingual or bilingual competencies. It does however emphasise that individual resources and competencies amount to more than skills in separate languages and that to understand such resources requires attention to everyday language practices in context.

In different ways, concepts of translanguaging, polylingualism and metrolingualism all emphasise that it is the individual's use of their linguistic repertoire that makes communication possible and that repertoire includes diverse semiotic resources, and is contextual. The differences between these concepts are nuanced and, as Canagarajah (2013) suggests, they could be grouped under the global heading of translingual practices (p.6) that captures the thinking beyond language boundaries and the recognition of the role of broader semiotics (space, place, bodies) in communication (Pennycook, 2017).

An additive view of bilingualism.

The development of translanguaging practice and research grew out of an emancipatory approach to using two languages together in bilingual schools in Wales (Lewis et al., 2012a; Lewis, Jones, & Baker, 2012b). Since its original use in the Welsh context translanguaging theory has been widely adopted in the bilingual literature and expanded to include a focus on the bilingual practices of children as well as teachers (García 2009). The ideological roots of

this term are located in an additive view of bilingualism and bilingual language use in education. The addition to one's language repertoire is considered to be an enrichment of the linguistic and cultural experience of the individual that enhances but does not compromise the existing repertoire. Additive bilingual education strives to develop learners' proficiency in both, or all, of their languages and to respect value and celebrate the linguistic and cultural heritage that individuals bring to the classroom (Baker 2011). This work takes as its starting point 'the language practices of bilingual people as the norm, and not the language of monolinguals' (Celic & Seltzer, 2011, p. 1). This ideological stance is pertinent to deaf education where a positive perspective on bilingual education has taken decades to grow (Swanwick 2016a, 2010a, Swanwick et al. 2014).

It is important that translanguaging is understood as a development of this additive paradigm rather than as an approach that conversely devalues and threatens the development of individual languages and cultures. This distinction is particularly pertinent to deaf education where sign language competency has not been universally valued as an educational outcome in its own right but seen rather in terms of transitional support for the development of the majority language (Swanwick, 2010). For example the use of various manually coded English systems where features of sign language are used to provide visual support for spoken language (see for example Supalla & McKee, 2002) might be described as a form of translanguaging. In some learning contexts these practices are indeed part and parcel of bi/multilingual communication among deaf and hearing interlocutors, but where the main objective is to develop the majority spoken language this practice does not align with the goals of additive bilingual education (Skutnabb-Kangas, 2009a).

Although the concept of translanguaging is conceptualized by some as a form of social justice (Garcıa & Leiva, 2013), concerns have been voiced in the research about the implications of accepting and promoting translanguaging in the education of children who speak minority and endangered languages (Skutnabb-Kangas, 2009b). Lyons (2009) for example critiques translanguaging as a form of 'hybridity' that undermines the work of language maintenance and dilutes the integrity of heritage languages. This is echoed by other researchers who argue that translanguaging can be considered as a threat to the survival of minority languages rather than an opportunity for their development (Cenoz & Gorter, 2011; Moriarty, 2015). These concerns are pertinent for deaf education if translanguaging is misinterpreted as the use of sign language solely as a support for spoken language. Instead it needs to be underlined that, as per the original conceptualization of translanguaging in Wales, the ideological and pedagogical objective of translanguaging is to create 'space' for the use of

minority languages in the classroom and to give such languages purpose and validity in the learning context (Gutiérrez, Baquedano-López, Alvarez, & Chiu, 1999).

A focus on repertoire

A further additive feature of translanguaging is the primary emphasis on the language repertoire of individuals. This focus brings a fresh perspective to deaf education where language policies rather than learner repertoire have tended to lead practice (Swanwick, 2016a). The concept of translanguaging rests on the premise that bilinguals have one linguistic repertoire from which they select features strategically to communicate effectively. A language repertoire thus comprises a set of integrated skills across languages, that constitutes ' one behavioral whole' (Gumperz, 1964, p. 140). This includes the ability to make the "critical and creative" choices about language use (Garcia & Li Wei,10) . The concept of repertoire has evolved to keep pace with the expanding linguistic diversity and language practices of communities where the interaction across and between social groupings and cultures gives rise to increasingly dynamic and mobile language practices (Blommaert & Backus, 2012; Vertovec, 2007). In this context repertoire is understood to mean the multidimensional constellation of linguist resources, values, and practices that are "attached to an individual life and a life experience" (Blommaert, 2008, p. 16) and all of the "constructs and narratives therein" (Blackledge & Creese, 2010, p. 224). This provides a framework to explore linguistic practices in a way that does not "imagine languages as clear cut entities" (Busch, 2012, p. 507) and involves understanding "the complexes of resources people actually possess and deploy" (Blommaert, 2010, p. 102).

In the context of deaf children, repertoire thus comprises ways of knowing and using sign and spoken/written languages that are shaped by personal biographies and that are constantly in flux. A bimodal bi/multilingual repertoire does not imply complete or finished knowledge of a sign, spoken/written language but a changing 'patchwork of competencies and skills' (Blommaert & Backus, 2012, p. 1). Deaf children's language repertoires move with their lives, for example, as they learn to read and write; learn to decipher spoken language through a cochlear implant; learn how to adjust their British Sign Language register; recognize a spoken language accent; develop speech-reading skills in noisy environment; learn new slang in the playground or curriculum-specific vocabulary in the classroom. The multimodal aspects of deaf people's linguistic repertoires are fully discussed in the introductory article to this special issue.

Deaf children have varied language experiences in terms of their exposure and access to sign and spoken languages and therefore diverse language repertoires. This is not to underplay the fact that the acquisition of fluent sign and/or spoken language skills is problematic for many for deaf children but to emphasize the linguistic heterogeneity among this group. In the UK for example 10% of school-aged children (0-19) use sign language in 'in some form' either as their sole language or alongside another language. Furthermore, in this context 13% of deaf learners use a spoken languages at home other than English (Consortium for Research in Deaf Education 2015). Sophisticated hearing technologies, including cochlear implants are increasingly enabling deaf children to become multilingual speakers (McConkey Robbins, Waltzman, & Green, 2004) and global digital technologies are opening up visual and text-based communication among deaf and hearing people (eg. Power, Power, & Horstmanshof, 2007). On a daily basis deaf children are thus exposed to, and use, sign, spoken and written language(s) with varying degrees of fluency (Swanwick, Wright, & Salter, 2016).

An innovative approach to pedagogy

The innovative value that translanguaging brings to deaf education lies in the conceptualization of language as a social practice and the recognition that actions by speakers are always 'embedded in a web of social and cognitive relations' (Garcia and Li Wei 2014, 9). This brings a perspective on language to deaf education that focuses on what individuals do with their language resources in particular contexts, and how language actions shape, and are shaped by, individual experience and knowledge (Baker, 2011; Blommaert & Rampton, 2011; García, 2009; Linell, 2009). Within this paradigm languaging does not only comprise what we know about language but also refers to 'how we interact with the world lingually' (Garcia and Li Wei 2014, 8).

This perspective is consistent with a sociocultural theory of mind that construes language as a cognitive tool for mediating learning and the development of new understandings 'to make and shape meaning' (Vygotsky, 1986, p. 107). In the educational context this construct has been hugely influential as a means of understanding the relationship between experience and instruction, and for analysing the ways in which conceptual learning is mediated through dialogue. Languaging in the learning context may be collaborative dialogue, but it may also constitute private or self-directed speech and as such, the internal dialogue that mediates learning (Lantolf & Thorne, 2006). Shifting attention from language to languaging in deaf education immediately brings a perspective that emphasises

how language is used to mediate learning, rather than what language or form of communication is used.

In the second language learning research languaging is often conceptualised as an interaction between students' first (L1) and second language (L2) and specifically where students' learning of (spoken or written) L2 is mediated by talk in L1 (Brooks, Swain, Lapkin, & Knouzi, 2010; Swain, 2006; Swain, Lapkin, Knouzi, Suzuki, & Brooks, 2009). An example of languaging in this context would include learners' talk in L1 around a collaborative writing activity in L2 (Ishikawa, 2013; Mirzaei & Eslami, 2015; Suzuki, 2012). The negotiation of linguistic problems, among differently capable peers, to create a collaborative written enables L2 students to co-construct language knowledge and negotiate meaning and, at the same time, establish their positions and goals as learners (Mirzaei and Eslami, 2015, 20).

Languaging, in this context, is a collaborative dialogue that creates the cognitive scaffolding for learning. Languaging can also be understood as inner dialogue (Suzuki, 2012). In the writing process for example, we mediate our own internal thoughts and ideas to produce an external written product. A dialogue takes place within ourselves and the product (the written texts) is the result and the expression of this languaging. Common to all of these different forms of languaging is the dialogic activity that takes place, with other learners, peers, teachers, or internally.

The concept of languaging is also concerned with the way in which we perceive, express and positon ourselves through language use (Jensen, 2014): Languaging is behaviour and as such reflects our full selves as human beings (Thibault, 2011). For deaf education this invites attention to ways in which the languaging of deaf children makes visible their identity, cultural affiliations and social positions (Dahlberg & Bagga-Gupta, 2013, 2014). In the social context of the classroom this might throw light on learners' orientation towards the learning activity, sense of self and role within the learning peer group and reveal the 'fluid and multiple identities in play (supportive peer, reluctant learner, successful learner) from moment-to-moment' (Bagga-Gupta & Gynne, 2013, p. 494). The concept of languaging affords recognition of the ways in which values, emotions and core beliefs are enacted through individual language behaviours and this includes the many different multimodal resources (gestural, gaze, facial expression) that may be recruited in the service of self-expression (Jensen, 2014). The fundamental approach to language embedded within the concept of translanguaging thus brings a perspective on language to the deaf education classroom that privileges dialogue as central to the learning experience.

Translanguaging in deaf education

Translanguaging as a form of pedagogy and as a natural result of languages in contact have different features and come about for different reasons. Translanguaging in deaf education needs to be considered in terms of learner-led and teacher-led practices (Garcia & Li Wei, 2014). Firstly, it is important to be able to recognize what learners do with their bimodal and bi/multilingual language resources. Secondly, it is helpful to identify how adults can draw on their own skills to respond to learner repertoires and support learning.

Learner translanguaging

When participating in a typical bilingual learning activity that involves sign, spoken and written language deaf learners continually engage in a number of different translanguaging practices. Sometimes this is seen in the way in which learners move across languages in order to navigate a learning activity (Evans, 2004). This happens for example when learners talk about the meaning and content of a piece of written text in sign language (Wilbur, 2000). The text could be a narrative, a set of instructions or an explanation in a science or geography text book and so on. What are important are the repertoire of skills involved that include reading, comprehension, analysis and the ability to use one language to talk about another and how this combination of processes facilitate learning. Of course this type of translanguaging process is common to other (spoken) bilingual learning contexts with the difference that deaf learners are working across two modalities. This practice is crucial for deaf learners for whom the written form of the target information may be more readily accessible than the spoken form.

To use one language to talk about content that is expressed in another is thus an example of translanguaging that is quite familiar in the bilingual literature (Lewis, Jones, & Baker, 2013). The activity of more consciously analyzing two different language extracts is also seen where learners are asked to compare and contrast language features, or to critique or provide a translation from one language to another. For deaf learners this might involve comparing features of a signed and equivalent written narrative, providing a written version of a signed narrative or a signed version of a written narrative (Koutsoubou, 2010; Koutsoubou, Herman, & Woll, 2006, 2007). Although sign languages have often been considered un-writable, translanguaging can include producing written sign language texts using SignWriting. This writing system (originally developed for dance notation) is being increasingly explored by signers worldwide to articulate and challenge established conceptions of language and writing (Hoffmann-Dilloway, 2011).

All of these translanguaging activities require a repertoire of skills in both languages as well as the ability to analyse, compare and contrast languages. For deaf learners this translanguaging process also involves recognizing, selecting and evaluating the equivalent ways in which meaning can be expressed in different languages and through different modalities (Evans, 2004; Kelman & Branco, 2009; Swanwick, 2001, 2002; Wilbur, 2000).

These bilingual and bimodal learning activities provide the context for more fine-grained examination of translanguaging practices that involve the creative integration of features of sign, spoken and written languages that is unique to this context. One example of this is the incorporation of features of spoken language (e.g. English) alongside the use of a natural sign language (such as British or American Sign Language). This can include the simultaneous vocalization or mouthing of certain words alongside the use of the equivalent sign or the sequential use of these features, sometimes referred to as 'chaining' (Bagga-Gupta & Gynne, 2013; Humphries & MacDougall, 2000). In the educational context this would typically happen during a discussion in sign language that involves reference to some new curriculum vocabulary or key words in a text. It is also a social strategy that enables hearing peers and adults, who are non-fluent sign language users, to understand a sign language utterance or dialogue. Where sign and spoken language are constantly in contact this type of blending is a naturally occurring example of translanguaging that can facilitate learning, by enabling leaners to link new concepts and vocabulary with signs, and foster inclusivity and participation (Sutton-Spence & Woll, 1999).

The reverse of this strategy can also been seen where a deaf child chooses to communicate in spoken language but incorporate features of sign language into their discourse such as the simultaneous use of individual signs, usually for meaning-carrying words, alongside the spoken word equivalent. Other multimodal features of communication, such as the use of facial expression, eye gaze and body movements might also be incorporated to enhance communication and shared understanding. These examples of the integrated use of an individual's full linguistic repertoire demonstrate the potential of translanguaging in this context to enable leaners to make connection between their languages and to facilitate communication between signing and non-signing people.

It is important here to establish the relationship between translanguaging and sign supported speech. As the term suggests, 'Sign Supported Speech' or SSS is a communication strategy and a translingual practice that incorporates features of sign language alongside running speech to make visible certain aspects (usually content words) of the spoken utterance. Crucial to how this articulates with translanguaging is the fact that SSS can be

enacted differently, in different contexts and by different people. Firstly, the simultaneous use of items from a sign and spoken language is recognized as a natural feature of contact among deaf and hearing children and adults, often used spontaneously to ensure that both deaf and hearing parties can participate, in groups or 1:1 interactions (De Quadros, Lillo-Martin, & Chen Pichler, 2014; Emmorey, Borinstein, Thompson, & Gollan, 2008; Pfau, Steinbach, & Woll, 2012). Secondly, SSS is also used for pedagogical purposes to support access to, and the learning of, spoken language and to create an inclusive learning environment. The use of SSS in this context fulfills a particular function, and used appropriately can enrich and extend the bi/multilingual language experience of deaf learners. This is a contentious issue that is discussed in the pedagogical section. The natural and pedagogical uses of SSS are both features of translanguaging but are not synonymous with this concept. To equate the two would oversimplify the scale and affordances of translanguaging that amounts to more than code-switching or code-blending (Otheguy et al., 2015).

In the educational context this type of translanguaging typically occurs when deaf learners are reading aloud, for example from an English text. The use of sign and/or features from BSL or ASL during this process links the sign and written word meanings and also makes visible their comprehension as they read. Blending spoken and sign language in this way seems to provide support for deaf learners in their use of spoken and written language and it is also a social strategy that facilitates communication with a mixed deaf and hearing audience.

In both of these circumstances fingerspelling plays a key role because of its hybrid nature as an established part of the lexicon of sign language and an accessible means of presenting a visual representation of written graphemes (Haptonstall-Nykaza & Schick, 2007; Padden, 2006; Puente, Alvarado, & Herrera, 2006; Roos, 2013). Fingerspelling is a method of spelling out the written version of words using a handshape for each letter. As a feature of sign languages, it is used to spell out names of people and places for which there is no sign or to clarify a new, unknown, or regional sign (Sutton-Spence & Woll, 1999). Because fingerspelling can be used in conjunction with vocalisation and mouthing, its use can also provide a phonological bridge between the sounds and spellings of words where a teacher can show the lip-pattern of a word or a phoneme and simultaneously produce the equivalent orthography through fingerspelling. The hybrid nature of fingerspelling and its equal accessibility to deaf and hearing people position it as a translanguaging strategy in its own right that facilitates understanding between deaf and hearing interlocutors.   It is also as a

spontaneous and central feature of all of the interlingual communication practices described above

Translanguaging can also support the learning process by enabling deaf learners to express something in one language that they do not have the skills or vocabulary for in the other by switching, for example, between spoken English, BSL and written English (Rinaldi & Caselli, 2014; Walker & Tomblin, 2014). Translanguaging in this context facilitates a fuller contribution to dialogue in the classroom than deaf learners normally experience. Klatter-Folmer, van Hout, Kolen, and Verhoeven (2006) found that the use of mixed sign and spoken language enabled deaf children to communicate with greater linguistic complexity than was available to them in either one of their languages. This 'pooling of resources' is seen in other contexts where bimodal bi/multilingual deaf children have been observed to use lexical and structural 'borrowings' from German Sign Language in an organized and systemic way to enable the expressions of complex meanings not (yet) available to them in their written German repertoire (Plaza-Pust & Morales-Lopez, 2008, p. 42).

Where these examples are found, translanguaging with sign, spoken and written language appears to be intuitive and not to confuse learners. They demonstrate instead language awareness and communicative sensitivity, and a facility with two or more languages that does not undermine the separate development of skills in any one language within the repertoire (Krausneker, 2008; Tang, Lam, & Yiu, 2014). However, this does not mean that bilingual competency and high levels of skills in sign and spoken/written language should not continue to be an educational goal.

Pedagogical translanguaging

In the light of deaf children's language circumstances the distinction made between learner and teacher-led translanguaging is an important one. The translanguaging examples given above have not made reference to the influence of the teacher, or other adults in the classroom, and how language is used in that context. And yet, these factors are crucial to the status and value of translanguaging in terms of whether it is an additive feature of a bilingual education or a compromising mix of language features towards a monolingual goal. For the former to prevail teachers themselves need to be bilingual, skilled at making decisions about their language use in the classroom and at recognizing and harnessing the repertoires of deaf learners. The asymmetries in the classroom in terms of language access, choice and power need thus to be recognized and planned for.

That said there are many examples of teacher's critical use of two or more languages that are observable in the educational context, even though these practices are not currently

described as translanguaging. In this context the mindful use of sign, spoken and written languages promotes inclusivity, engagement and is supportive of language and curriculum learning. This is captured particularly well by Lindahl (2015) who reports on pupil and teacher translanguaging in science lessons, where 'sign language and Swedish integrate and interact' (p. 136). In this study, Lindahl illustrates how the classroom dialogue, that is facilitated by translanguaging, enables the shared development of scientific knowledge, engagement with scientific reasoning processes, and the negotiation of meaning in scientific discourse. She gives examples of how Swedish Sign Language, Signed Swedish (SSS), written Swedish, and fingerspelling are combined by the teacher and the pupils to enable fluid dialogue in the science classroom. She describes the powerful teaching and learning potential generated by the 'spontaneous, dynamic and seamless language shifting, as well as cross-linguistic dialogue' (p.137).

Teachers may use two languages side-by-side to compare and contrast sign and spoken written languages and/or to model language structures. They may switch between sign spoken/written language as they are teaching to check understanding, negotiate new meanings, and introduce new curriculum vocabulary or language structures (Holmström & Schönström, 2016). The practice of 'chaining' or 'sandwiching' is commonly used in this context where different modalities or resources are connected through a sequence of signing a concept and then fingerspelling it or pointing at a written word and then signing/saying it, for example in order to highlight equivalence.(Bagga-Gupta, 2002; Humphries & MacDougall, 2000)

In any deaf education classroom teachers will be working with learners with diverse language repertoires and flexibility is the key. It may be opportune to teach in one language but invite students to contribute in their preferred language to fully engage all of the learners, or to use the students' preferred language to contextualise or prepare a learning activity that then takes place in the target language. Even if the students' home language is not known by the teacher and class members it is motivating for learners to be invited to share words or signs from home where they are known, for example, for the new and important curriculum vocabulary (Li Wei, 2011).

Languages can be used separately in a deaf education classrooms in a number of ways. However, unique to sign languages is the potential for blending items from sign language with a spoken language. Examples of this, in terms of leaner-led translanguaging have been discussed earlier. The distinction was made between the naturally occurring practices of blending features of sign and spoken language and those that are more contrived

for pedagogical purposes. A distinction was thus made between two versions of Sign Supported Speech (SSS). The pedagogical use of SSS usually comprises the use of the spoken language of the community, accompanied by signs borrowed from the sign language of that community (Giezen, 2011). This and other more systematic forms of manually coded English are intended to provide a 'through the air' experience of spoken English and often deployed to support literacy development (Gaustad & Kelly, 2004; C Mayer, 2007; Connie Mayer & Akamatsu, 2000; Nielsen, Luetke, & Stryker, 2011). Used skillfully, and within a supportive bi/multilingual context, SSS serves to open up communication to a group of learners with mixed sign and spoken language repertoires, and also to support learners to make a connection between sign, spoken and written languages. SSS, sometimes also referred to as Simultaneous Communication or SimCom, has however been roundly critiqued in the literature as a teaching approach, often used by teachers who are not themselves bilingual with the primary aim of developing spoken and written language skills (Moores, 2010; Tevenal & Villanueva, 2009). In this case it is argued that SSS undermines, rather than supports, the development of sign language and bi/multilingual skills. Given these issues it is of crucial importance that firstly, the term translanguaging is not seen a synonymous with, or a replacement for SSS. Secondly, whilst we might argue that SSS has a place in deaf education as one among many translanguaging strategies its use should contribute to the enrichment and development of bi/multilingual repertoires of deaf learners.

Conclusion

Opportunities

This paper has examined the extent to which the theory and practice of translanguaging enhances deaf education and benefits deaf learners. The opportunities that translanguaging affords for this context are identified in term of i) the additive approach to the maintenance and use of minority languages that translanguaging embodies, ii) the focus on the language repertoire of individuals and all of the different ways that learners draw on their language resources to make meaning and iii) the innovative approach to language, languaging and dialogue in the classroom that translanguaging implies. The examples given illustrate that this potentially emancipatory approach brings a number of opportunities to deaf education and research. Where pedagogical translanguaging comprises bilingual skills, a critical and mindful use of individual resources and an awareness of the language repertoires in play, the benefits of translanguaging for deaf education and deaf learners are two-fold. The first of these is the focus on dialogue that is intrinsic to the concept of languaging and translanguaging. This offers a framework for teaching and learning that is underpinned by a

sociocultural theory of learning that emphasizes participation, engagement, and sensitivity to individual learner identity (Mercer & Howe, 2012). Secondly translanguaging provides a space for the dynamic use of all the language repertoires in the learning context including all of the communication conventions, semiotic resources and cultures in play to enable fluidity of communication and responsivity to the identities and intentions of the learners.

Constraints

The development of good translanguaging practice is however constrained by a number of factors in deaf education. The first of these is that many deaf children are not learning in additive bilingual contexts where their bimodal and bi/multilingual skills are recognized or nurtured. Not all schools and services offer bilingual provision and flexible language pedagogies. Further, learners may be in learning contexts where the educational practitioners do not have the bilingual language skills to respond to the diverse language repertoires of the learners, support bilingual language development or engage in skillful translanguaging pedagogy. Given that deaf children often come to school without fluent skills in a sign or a spoken language this creates a number of asymmetries in terms of language use in the classroom where communication practices are a compromise rather than apposite. In such circumstances it is relevant to be concerned about the uncritical and predominant use of blended forms of communication such as SSS especially where this occurs in lieu of the promotion and support for deaf children's bilingual skills.

Conditions

Translanguaging in the deaf education context therefore comes with a promise of the new as well as a 'health warning'. As a way forward for deaf education pedagogy that recognizes the diverse language repertoires of deaf learners it has great potential in theory. However, as a classroom practice translanguaging will only enhance language development and learning in deaf education where i) it is embedded within an inclusive and additive language context ii) the diverse language repertoires of individuals are recognized and nurtured and iii) practitioners have the bilingual skills and agility to lead and respond to translanguaging practices that enhance language development and learning. The potential of translanguaging to facilitate learning in the classroom is contingent on teachers' language repertoires and the mindful use of different communication strategies. There are reasons to be optimistic here since teachers can be trained to develop these skills, that is, to be aware of their own communication practices, articulate the decisions that guide them, and evaluate their impact on children's learning.

Translanguaging is already happening in deaf education classrooms among deaf and hearing learners and teachers, whether we think that it is a good idea or not, and ever more so as individuals and societies become increasingly multilingual. It is therefore timely to extend the examination of translingual practices, captured within this special issue, into deaf education so that we can articulate the very specific implications for this context. There is much more work to be done to develop understandings of the translanguaging practices of deaf children and adults in the educational context. Nonetheless, to bring this term into deaf education and begin to document what it means in practice is a major step forward in terms of understanding how deaf children use their entire language repertoire for learning, and how teachers can help them.

Bagga-Gupta, S. (2002). Explorations in bilingual instructional interaction: a sociocultural perspective on literacy. *Learning and Instruction, 12*(5), 557-587. doi: 10.1016/s0959-4752(01)00032-9

Bagga-Gupta, S., & Gynne, A. (2013). Young people's languaging and social positioning: chaining in "bilingual"educational settings in Sweden. *Linguistics and Education, 24*(4), 479.

Baker, C. (2001). *Foundations of Bilingual Education and Bilingualism* (Third ed.). Clevedon: Multilingual Matters.

Baker, C. (2006). *Foundations of bilingual education and bilingualism* (Fourth ed.). Clevedon, UK: Multilingual Matters.

Baker, C. (2011). *Foundations of Bilingual Education and Bilingualism. Fifth Edition. Bilingual Education & Bilingualism*: Multilingual Matters.

Blackledge, A., & Creese, A. (2010). *Multilingualism: A critical perspective*. London: Continuum.

Blackledge, A., & Creese, A. (2017). Translanguaging and the Body. *International Journal of Multilingualism, 14*(3).

Blommaert, J. (2008). Language, asylum, and the national order. *Urban Language & Literacies, 50*, 2-21.

Blommaert, J. (2010). *The sociolinguistics of globalization*. Cambridge: Cambridge University Press.

Blommaert, J., & Backus, A. (2012). Superdiverse repertoires and the individual. *Tilburg Papers in Culture Studies, 24.*

Blommaert, J., & Rampton, B. (2011). Language and superdiversity. *Diversities, 13*(2), 1-21.

Brooks, L., Swain, M., Lapkin, S., & Knouzi, I. (2010). Mediating between scientific and spontaneous concepts through languaging. *Language Awareness, 19*(2), 89-110. doi: 10.1080/09658410903440755

Busch, B. (2012). The Linguistic Repertoire Revisited. *APPLIED LINGUISTICS, 33*(5), 503-523. doi: 10.1093/applin/ams056

Canagarajah, S. (2013). *Translingual practice: Global Englishes and cosmopolitan relations*. New York: Routledge.

Cenoz, J., & Gorter, D. (2011). Toward a Multilingual Approach in the Study of Multilingualism in School Contexts [Special Issue]. *Modern Language Journal, 95*(3), 339-445. doi: 10.1111/j.1540-4781.2011.01204.x

CRIDE. (2015). Report on 2015 (England) survey on educational provision for deaf children [Press release]

Dahlberg, G. M., & Bagga-Gupta, S. (2013). Communication in the virtual classroom in higher education: Languaging beyond the boundaries of time and space. *Learning Culture and Social Interaction, 2*(3), 127-142. doi: 10.1016/j.lcsi.2013.04.003

Dahlberg, G. M., & Bagga-Gupta, S. (2014). Understanding glocal learning spaces. An empirical study of languaging and transmigrant positions in the virtual classroom. *Learning, Media and Technology, 39*(4), 468-487. doi: 10.1080/17439884.2014.931868

De Quadros, R., Lillo-Martin, D., & Chen Pichler, D. (2014). Code-blending in bimodal bilingual development/Sobreposição no desenvolvimento bilíngue bimodal. *Revista Brasileira de Linguística Aplicada, 14*, 799-834.

De Quadros, R., Lillo-Martin, D., & Pichler, D. C. (2016). Bimodal bilingualism: Sign and spoken language. In M. MARSCHARK & P. SPENCER (Eds.), *The Oxford Handbook of Deaf Studies in Language.* (pp. 181 - 196). New York: Oxford University Press.

Emmorey, K., Borinstein, H. B., Thompson, R., & Gollan, T. H. (2008). Bimodal bilingualism. *Bilingualism: Language and Cognition, 11*(1), 43-61. doi: 10.1017/S1366728907003203

Evans, C. J. (2004). Literacy development in deaf students: Case studies in bilingual teaching and learning. *American Annals of the Deaf, 149*(1), 17-27.

García, O. (2009). *Bilingual education in the 21st century: a global perspective*. Malden, Mass; Chichester: Wiley-Blackwell.

Garcıa, O., & Leiva, C. (2013). Theorizing and enacting translanguaging for social justice. . In A. Creese & A. Blackledge (Eds.), *Heteroglossia as practice and pedagogy* (pp. 199-216). New York: Springer.

García, O., & Leiva, C. (2014). Theorizing and Enacting Translanguaging for Social Justice. In A. Blackledge & A. Creese (Eds.), *Heteroglossia as Practice and Pedagogy* (pp. 199-218). London/New York: Springer.

Garcia, O., & Li Wei. (2014). *Translanguaging: Language, Bilingualism and Education.* . Hampshire: Palgrave Macmillan.

García, O., & Wei, L. (2014). *Translanguaging: Language, bilingualism and education*. Basingstoke: Palgrave MacMillan.

Gaustad, M. G., & Kelly, R. R. (2004). The relationship between reading achievement and morphological word analysis in deaf and hearing students matched for reading level. *Journal of Deaf Studies and Deaf Education, 9*(3), 269–285.

Giezen, M. (2011). *Speech and sign perception in deaf children with cochlear implants.* . Netherlands Graduate School of Linguistics.

Gumperz, J. J. (1964). Linguistic and Social Interaction in Two Communities. *American Anthropologist, 66*(6_PART2), 137-153. doi: 10.1525/aa.1964.66.suppl_3.02a00100

Gutiérrez, K., Baquedano-López, P., Alvarez, H., & Chiu, M. (1999). Building a culture of collaboration through hybrid language practices. *Theory Into Practice, 38*(2), 87-93. doi: 10.1080/00405849909543837

Haptonstall-Nykaza, T. S., & Schick, B. (2007). The transition from fingerspelling to English print: Facilitating English decoding. *Journal of Deaf Studies and Deaf Education, 12*(2), 172–183.

Heller, M. (2007). *Bilingualism: A social approach.* . Basingstoke, England: Palgrave Macmillan.

Hoffmann-Dilloway, E. (2011). Writing the smile: Language ideologies in, and through, sign language scripts. . *Language & Communication, 31*(4), 345-355.

Holmström, I., & Schönström, K. (2016). *Multimodal-multilingual languaging between deaf teachers and students in a higher education setting in Sweden*. Paper presented at the Translanguaging and repertoires across signed and spoken languages: Insights from linguistic ethnographies in (super)diverse contexts., Max Planck Institute, Gottingham.

Humphries, T., & MacDougall, F. (2000). "Chaining" and other links: Making connections between American Sign Language and English in two types of school settings. *Visual Anthropology Review, 15*(2), 84–94.

Ishikawa, M. (2013). Examining the effect of written languaging: the role of metanotes as a mediator of second language learning. *Language Awareness, 22*(3), 220-233. doi: 10.1080/09658416.2012.683435

Jensen, T. W. (2014). Emotion in languaging: Languaging as affective, adaptive, and flexible behavior in social interaction. *Frontiers in Psychology, 5*(JUL). doi: 10.3389/fpsyg.2014.00720

Jørgensen, J. N. (2008). Polylingual Languaging around and among Children and Adolescents [Special Issue]. *International Journal of Multilingualism, 5*(3), 159-275.

Jørgensen, J. N., Karrebæk, M., Madsen, L. M., & Møller, J. S. (2011). Polylanguaging in superdiversity. *Diversities, 13*(2), 23-37.

Kelman, C. A., & Branco, A. U. (2009). (Meta) communication strategies in inclusive classes for deaf students. *American Annals of the Deaf, 154*(4), 371-381.

Klatter-Folmer, J., van Hout, R., Kolen, E., & Verhoeven, L. (2006). Language Development in Deaf Children's Interactions With Deaf and Hearing Adults: A Dutch Longitudinal Study. *Journal of Deaf Studies and Deaf Education, 11*(2), 238-251. doi: 10.1093/deafed/enj032

Knoors, H., & Marschark, M. (2012). Language planning for the 21st century: Revisiting bilingual language policy for deaf children. *Journal of Deaf Studies and Deaf Education, 17*(3), 291–305. doi: 10.1017/S027226310808073X;

Koutsoubou, M. (2010). The use of narrative analysis as a research and evaluation method of atypical language: The case of deaf writing. *International Journal of Bilingual Education and Bilingualism, 13*(2), 225–241.

Koutsoubou, M., Herman, R., & Woll, B. (2006). Bilingual language profiles of deaf students: An analysis of the written narratives of three deaf writers with different language proficiencies. *Deafness and Education International, 8*(3), 144–168.

Koutsoubou, M., Herman, R., & Woll, B. (2007). Does language input matter in bilingual writing? Translation versus direct composition in deaf school students' written stories. *International Journal of Bilingual Education and Bilingualism, 10*(2), 127–151.

Krausneker, V. (2008). Language use and awareness of deaf and hearing children in a bilingual setting In C. Plaza-Pust & E. Morales-Lopez (Eds.), *Sign Bilingualism: Language development, interaction and maintenance in sign language contact situations* (pp. 195 – 222). Amsterdam, The Netherlands, : John Benjamins Publishing

Kusters, A., Spotti, M., Tapio, E., & Swanwick, R. (2017). Beyond languages, beyond modalities: Transforming the study of semiotic repertoires. *International Journal of Multilingualism, 14*(3).

Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford: Oxford Universty Press

Lewis, G., Jones, B., & Baker, C. (2012a). Translanguaging: Developing its conceptualisation and contextualisation. *Educational Research and Evaluation, 18*(7), 655–670.

Lewis, G., Jones, B., & Baker, C. (2012b). Translanguaging: Origins and development from school to street and beyond. *Educational Research and Evaluation, 18*(7), 641. doi: 10.1080/13803611.2012.718488

Lewis, G., Jones, B., & Baker, C. (2013). 100 bilingual lessons: Distributing two languages in classrooms. In A.-C. Christián, P. Chandler, M. D. López-Jiménez & R. Chacón-Beltrán (Eds.), *Bilingual and Multilingual Education in the 21st Century: Building on Experience* (pp. 107-135). Clevedon: Multilingual Matters.

Li Wei. (2011). Multilinguality, multimodality, and multicompetence: Code- and modeswitching by minority ethnic children in complementary schools. *Modern Language Journal, 95*(3), 370-384.

Lindahl, C. (2015). *Signs of Significance : A Study of Dialogue in a Multimodal, Sign Bilingual Science Classroom (English).* (PhD), Stockholm University, Stockholm.

Linell, P. (2009). *Rethinking language, mind, and world dialogically: interactional and contextual theories of human sense-making*. Charlotte, NC: Information Age Pub.

Lyons, S. R. (2009). The fine art of fencing: Nationalism, hybridity, and the search for a Native American writing pedagogy. *Journal of Advanced Composition, 29*, 77-106.

Makoni, S., & Pennycook, A. (2006). *Disinventing and reconstituting languages* (Vol. 62). Clevedon, [England]: Buffalo ; Multilingual Matters.

Mayer, C. (2007). What really matters in the early literacy development of deaf children. *Journal of Deaf Studies and Deaf Education, 12*(4), 411–431.

Mayer, C., & Akamatsu, T. (2000). Deaf children creating written texts: Contributions of American Sign Language and signed forms of English. *American Annals of the Deaf, 145*(5), 394–401.

McConkey Robbins, A., Waltzman, S. B., & Green, J. E. (2004). Bilingual Oral Language Proficiency in Children With Cochlear Implants. *Archives of Otolaryngology–Head & Neck Surgery, 130*(5), 644-647. doi: 10.1001/archotol.130.5.644

Mercer, N., & Howe, C. (2012). Explaining the dialogic processes of teaching and learning: The value and potential of sociocultural theory. *LEARNING CULTURE AND SOCIAL INTERACTION, 1*(1), 12-21. doi: 10.1016/j.lcsi.2012.03.001

Mirzaei, A., & Eslami, Z. R. (2015). ZPD-activated languaging and collaborative L2 writing. *Educational Psychology, 35*(1), 5-25. doi: 10.1080/01443410.2013.814198

Moores, D. (2010). The history of language and communication issues in deaf education. . In M. Marschark & P. Spencer (Eds.), *The Oxford handbook of deaf studies, language, and education* (Vol. 2, pp. 17-30). New York: Oxford University Press.

Moriarty, M. (2015). Globalizing Language Policy and Planning: An Irish Language Perspective *Globalization and Minority-Language Policy and Planning* (Vol. Palgrave Macmillan UK, pp. 9-23): London.

Nielsen, D. C., Luetke, B., & Stryker, D. S. (2011). The importance of morphemic awareness to reading achievement and the potential of signing morphemes to supporting reading development. *Journal of Deaf Studies and Deaf Education, 16*(3), 275–288.

Otheguy, R., García, O., & Reid, W. (2015). Clarifying translanguaging and deconstructing named languages: A perspective from linguistics. *Applied Linguistics Review, 6*(3), 281-307. doi: 10.1515/applirev-2015-0014

Padden, C. A. (2006). Learning to fingerspell twice: Young signing children's acquistion of fingerspelling. . In B. Schick, M. Marschark & P. E. Spencer (Eds.), *Advances in the sign language development of deaf children* (pp. 189 – 201). New York: Oxford University Pres

Pennycook, A. (2017). Spatial repertoires and translingual assemblages. *International Journal of Multilingualism, 14*(3).

Pennycook, A., & Otsuji, E. (2015). *Metrolingualism. Language in the City*. London: Routledge.

Pfau, R., Steinbach, M., & Woll, B. (Eds.). (2012). *Sign Language: An International Handbook*. Berlin: Walter de Gruyter.

Plaza-Pust, C., & Morales-Lopez, E. (2008). Sign Bilingualism: Language development, interaction, and maintenance in sign language contact situations. In C. Plaza-Pust & E. Morales-Lopez (Eds.), *Sign Bilingualism: Language development, interaction, and maintenance in sign language contact situations* (pp. 333 – 380). Amsterdam: John Benjamins Publishing.

Power, M. R., Power, D., & Horstmanshof, L. (2007). Deaf people communicating via SMS, TTY, relay service, fax, and computers in Australia. . *Journal of Deaf Studies and Deaf Education, 12*(1), 80-92.

Puente, A., Alvarado, J. M., & Herrera, V. (2006). Fingerspelling and sign language as alternative codes for reading and writing words for Chilean deaf signers. *American Annals of the Deaf, 151*(3), 299–310.

Rinaldi, P., & Caselli, M. C. (2014). Language development in a bimodal bilingual child with cochlear implant: A longitudinal study. *BILINGUALISM-LANGUAGE AND COGNITION, 17*(4), 798-809. doi: 10.1017/S1366728913000849

Roos, C. (2013). Young deaf children's fingerspelling in learning to read and write: An ethnographic study in a signing setting. *Deafness and Education International, 15*(3), 149–178.

Skutnabb-Kangas, T. (2009a). Language policy and linguistic human rights. In T. Ricento (Ed.), *An introduction to language policy: Theory and method* (pp. 273-291). London: John Wiley & Sons.

Skutnabb-Kangas, T. (2009b). *Social Justice through Multilingual Education*. Bristol, UK: Multilingual Matters.

Snoddon, K. (2017). Uncovering Translingual Practices in Teaching Parents Classical ASL Varieties. *International Journal of Multilingualism, 4*(3).

Supalla, S. J., & McKee, C. (2002). The role of Manually Coded English in language development of deaf children. In R. Meier, K. Cormier & D. Quinto-Pozos (Eds.), *Modality and structure in signed and spoken languages* (pp. 143-166). Cambridge: Cambridge University Press.

Sutton-Spence, R., & Woll, B. (1999). *The linguistics of British Sign Language: An introduction*. Cambridge, UK: Cambridge University Press.

Suzuki, W. (2012). Written Languaging, Direct Correction, and Second Language Writing Revision. *Language Learning, 62*(4), 1110-1133. doi: 10.1111/j.1467-9922.2012.00720.x

Swain, M. (2006). Languaging, agency and collaboration in advanced language proficiency. In H. Brynes (Ed.), *Advanced language learning: The contribution of Halliday and Vygotsky* (pp. 95 - 108). London: Continuum.

Swain, M., Lapkin, S., Knouzi, I., Suzuki, W., & Brooks, L. (2009). Languaging: University Students Learn the Grammatical Concept of Voice in French. *The Modern Language Journal, 93*(1), 5-29. doi: 10.1111/j.1540-4781.2009.00825.x

Swanwick, R. (2001). The demands of a sign bilingual context for teachers and learners: An observation of language use and learning experiences. *Deafness and Education International, 3*(2), 62–79.

Swanwick, R. (2002). Sign bilingual deaf children's approaches to writing: Individual strategies for bridging the gap between BSL and written English. *Deafness and Education International, 4*(2), 65–83.

Swanwick, R. (2010). Policy and Practice in Sign Bilingual Education: Development, Challenges and Directions. *International Journal of Bilingual Education and Bilingualism, 13*(2), 147-158.

Swanwick, R. (2016a). *Languages and languaging in deaf education: A framework for pedagogy*. New York: Oxford University Press.

Swanwick, R. (2016b). Scaffolding learning through classroom talk: The role of translanguaging *The Oxford handbook of deaf studies in language* (pp. 420-430). New York, NY: Oxford University Press; US.

Swanwick, R., Wright, S., & Salter, J. (2016). Investigating deaf children's plural and diverse use of sign and spoken languages in a super diverse context. *Applied Linguistics Review,, 7*(2), 2-32.

Tang, G., Lam, S., & Yiu, K. M. (2014). Language development of deaf and hard-of-hearing students in a sign bilingual and co-enrollment environment In M. Marschark, G. Tang & H. Knoors (Eds.), *Bilingualism and bilingual deaf education* (pp. 313 341). New York/Oxford Oxford University Press.

Tevenal, S., & Villanueva, M. (2009). Are you getting the message? The effects of SimCom on the message received by deaf, hard of hearing, and hearing students. *Sign Language Studies, 9*(3), 266–286+379–380.

Thibault, P. (2011). First-Order Languaging Dynamics and Second-Order Language: The Distributed Language View. *Ecological Psychology, 23*(3), 210-245. doi: 10.1080/10407413.2011.591274

Vertovec, S. (2007). Super-diversity and its implications. *Ethnic and Racial Studies, 30*(6), 1024-1054. doi: 10.1080/01419870701599465

Vygotsky, L. S. (1986). *Thought and language*. Cambridge: MIT Press.

Walker, E., & Tomblin, J. B. (2014). The Influence of Communication Mode on Language Development in Children with Cochlear Implants. . In M. Marschark, G. Tang & H. Knoors (Eds.), *Bilingualism and Bilingual Deaf Education* (pp. 134 -151). New York: Oxford University Press.

Wilbur, R. B. (2000). The Use of ASL to Support the Development of English and Literacy. *Journal of Deaf Studies and Deaf Education, 5*(1), 81-104. doi: 10.1093/deafed/5.1.81

Williams, C. (1994). *Arfarniad o Ddulliau Dysgu ac Addysgu yng Nghyd-destun Addysg Uwchradd Ddwyieithog.* (Unpublished PhD thesis), University of Wales Bangor, Bangor.

Williams, C. (1996). Secondary education: teaching in the bilingual situation. . In C. Williams, G. Lewis & C. Baker (Eds.), *The Language Policy: Taking stock* (pp. 193-211): CAI, Llangefni.