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Inclusive education for Deaf students: literacy practices and South African Sign Language

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Abstract

This article considers the feasibility of inclusive education for Deaf students in a mainstream Further Education and Training (FET) classroom through the use of a South African Sign Language interpreter. It revisits the centrality of language in Deaf students' education and reports on progressive policy changes in the areas of language, education and disability in South Africa. The article surveys classroom discourse and literacy practices in a mainstream FET classroom, focusing particularly on students' acquisition of text literacy skills in Business English. Drawing on theoretical frameworks from the New Literacy Studies, Critical Discourse Analysis and the Social Model of Disability, the article argues that there is definitely potential for establishing inclusive education for Deaf students in a mainstream classroom. It however highlights that there are many difficulties and challenges around providing fully inclusive education for Deaf students. It was found that the signed interpretations in this classroom frequently represent an impoverished form of language while some types of pedagogic practice impede the interpreter's signing. The article concludes that interpreters and teachers need to be trained in forms of language and pedagogy that would benefit all students in class, including Deaf students.

Introduction

Most Deaf ¹ adults who use a signed language as preferred language² demonstrate poor text literacy skills (Albertini & Schley, 2003; Hyde & Muspratt, 1998; Powers, Gregory & Thoutenhoofd, 1999). In South Africa as few as one in three Deaf adults who use South African Sign Language (SASL) is functionally literate (Aarons & Glaser, 2002; DEAFSA, 2009) and the average Deaf school leaver has a written language comprehension ability equal to that of a hearing child of eight (Aarons & Reynolds, 2003; DEAFSA, 2009). Inevitably, compromised text literacy skills impact on Deaf school leavers' education and employment. This situation could be prevented by providing education for Deaf learners on a par with that offered to hearing children. Aarons and Akach (2002) clearly set out the conditions for such provision, arguing that policies on Inclusive Education (enrolling all children in ordinary mainstream schools) cannot be applied straightforwardly to Deaf learners, since the barrier that they experience in mainstream classes is "crucially a matter of language, and not of physical disability" (p 153). Deaf learners cannot access spoken language, and therefore are excluded from important learning and teaching processes in the hearing classroom. These researchers explain how Deaf learners can fully access education through a signed language, which leads them to conclude that "the educational needs of Deaf learners can be most efficiently, equitably and cost-effectively met in South African Sign Language (SASL) centres" (Aarons & Akach, 2002: 153), where schooling in all subjects (including additional languages and text literacy) would be provided through the medium of a signed language.

Our article fully endorses the argument put forward by Aarons and Akach (2002) for primary and secondary schooling. However, we shift the focus to a South African reality where Deaf students still emerge from various forms of schooling with unconsolidated language abilities. Most of these students would have been taught in institutions where teachers use mixed and degraded language forms. These include haphazard and simplistic signing, exaggerated spoken languages which learners are expected to lip-read, or arbitrary manually coded systems of spoken languages (usually English or Afrikaans) that fall short of being fully functioning languages like SASL. Although many schools for deaf children in South Africa now report the adoption of signed language as the language of learning and teaching (DOE, 2004), only 14% of teachers have well-developed SASL skills (DEAFSA, 2009). Most of them have had no specialized training in teaching through this medium, and no training in using a signed language to scaffold text literacy skills in an additional language. Some have no teacher training. There are furthermore very few Deaf educators in the school system (Aarons & Akach, 2002; DEAFSA, 2009) and only about 20 qualified sign language interpreters in South Africa, few working in education. For older students trying to complete secondary schooling or beginning tertiary education, therefore, Aarons and Akach's recommendations will have come too late. It is also neither feasible nor educationally appropriate for Further Education and Training (FET) colleges or tertiary level institutions to be established separately for Deaf students.

Very little research is available on secondary and post-secondary education and training for Deaf students in African countries (Chimedza, 1998; Kiyaga & Moores, 2003). While some conference presentations give descriptions of teaching programmes or the challenges facing Deaf students, no published research specifically focuses on Deaf students at higher levels of education, and very little is so far known about the experiences of Deaf students, teachers and interpreters in inclusive classrooms in South Africa.

In light of the realities facing Deaf students, as well as the shortage of evidence-based research, this article investigates the feasibility of developing Deaf students' text literacy skills in an inclusive mainstream classroom. It revisits the centrality of language in Deaf people's education and reports on progressive policy changes that have occurred in language, education and disability since 1994 in South Africa. Working from the premise that the test for all policy should lie in implementation, we survey classroom discourse and literacy practices in a particular mainstream FET classroom, where an attempt was made to include Deaf students through the use of a SASL interpreter. The article uses theoretical frameworks drawn from the New Literacy Studies, Critical Discourse Analysis and the Social Model of Disability to describe and analyze authentic classroom discourse and literacy practices generated in an inclusive educational setting. The subject area covered is Business English, providing a rich environment in which to look at language firstly as content subject, with associated discourse and literacy practices (Business English), and secondly as language of learning and teaching, with English and SASL simultaneously performing this function for the Deaf students in the class.

The role of language in Deaf students' education

Internationally, the single most important contributing factor to poor literacy acquisition in Deaf people has been identified as the language of learning and teaching. In many schools for deaf children, this language was, historically, a spoken language, for example French, rather than the signed language of that particular country, that is, French Sign Language. In the past, educational practice in schools for deaf children focused on developing speech and lip-reading skills rather than a language system appropriate to their sensory abilities. This widespread practice restricted deaf children's access to content areas in the curriculum (Aarons & Akach, 2002; Corker, 1998).

A growing body of research and associated practice have indicated that using a signed language as the language of learning and teaching exposes Deaf learners to a visual (as opposed to an aural) language that they can easily acquire, given biological readiness and adequate language stimulation (Mayer & Akamatsu, 2003). Unlike the practice of teaching speech and lip-reading skills, the practice of teaching a signed language as the primary language of learning and teaching facilitates access to an appropriate language system through which content knowledge, be it numeracy, science or history, can be absorbed.

However, since signed languages do not have a written form, Deaf children taught mainly in signed languages still face the challenge of learning to read and write in a non-signed language. In order to develop text literacy skills, they have to learn an additional language. For them, the process of learning to read and write is inevitably a matter of becoming at least bilingual (Grosjean, 1992; Mayer & Akamatsu, 2003; Paul, 1998 and 2006; Prinz & Strong, 1998).

Among themselves, Deaf people in South Africa use SASL (DEAFSA, 2009). As in many multilingual countries, English is positioned as a dominant language of learning and teaching in South Africa (Kapp, 2006). Deaf students, therefore, may be learning SASL as their primary language of communication (under optimal conditions), may encounter English as the dominant language of learning and teaching at school, and may come from families who speak yet another South African language at home. Thus, they potentially find themselves in a position of having to learn at least three languages simultaneously, at different levels, and for different purposes.

Setting up some articulation between these different language systems is important in Deaf education. One way of doing this is to establish a natural signed language (like SASL) as primary language of learning and teaching and to use it as a medium for scaffolding the teaching of an additional written language – an approach towards developing literacy in the Deaf known as the Bilingual-Bicultural philosophy. This approach is well documented in the teaching of younger deaf learners (Prinz & Strong, 1998; Storbeck, 2000; Svartholm, 1994).

The bilingual approach to literacy education for Deaf students is principally based on the Linguistic Interdependence Principle (Cummins, 1984; 2000), which posits that a common underlying proficiency across languages will allow positive transfer to occur from a first to a second language, if there is adequate exposure to the second language and motivation to learn it. Proponents of bilingual models suggest that if Deaf students achieve high levels of competence in both basic interpersonal communicative skills (BICs) and Cognitive Academic Language Proficiency (CALP) in a natural signed language as their first language, then positive transfer would occur to learning a second language, including learning text literacy skills (Johnson, Lidell & Erting, 1989; Strong & Prinz, 1998). Thus, CALP in a signed language would provide scaffolding to develop text literacy skills in a chosen second language. It is argued that this would apply even though the context of the Deaf language learner is in some ways unique, in that the first and second languages are not produced in the same mode, signed languages have no written form, and Deaf people do not have ready access to a face-to-face spoken form of the second language (Marschark, Lang & Albertini, 2002; Mayer & Akamatsu, 2003; Mayer & Wells, 1996).

Policy changes in language, education and disability post-1994

Since 1994, the democratic South African government has faced the challenge of providing quality education for its multi-cultural, multilingual population. Currently, SASL is not one of the 11 official languages of the country, but is specifically mentioned for promotion and development (PANSALB Act, 1995). In addition, SASL has the status of an official language for the purpose of learning at public schools (South African Schools Act, 1996; Reagan, Penn & Ogilvy, 2006). The South African Constitution (1996) and related legislation such as the Integrated National Disability Strategy (Office of the Deputy President, 1997) boast one of the most proactive approaches to access, opportunity and participation in education for disabled people. Education White Paper 6 (2001) sets out the blueprint for building an inclusive education and training system which advocates identifying and removing barriers to learning and addressing the specific needs of all learners.

There are currently three options for South African students after completing the General Education and Training phase ending in Grade 9. They can leave formal education, they can follow the academic stream (Grades 10–12) towards a National Senior Certificate, or they can study at an FET college towards a National Certificate Vocational. Although Deaf students who use SASL theoretically have the same options, very few schools for Deaf students offer Grades 10 to 12. Thus, in practice, Deaf students have the choice of studying for Grades 10 to 12 at hearing schools, changing to FET colleges, or attending special programmes for Deaf people, where these exist.

Given the scarcity of separate education provision for Deaf students after Grade 9, the practice of including them in mainstream classrooms through the use of a sign language interpreter offers an important possible channel for implementing South Africa's progressive policy on education for disabled people. It is of utmost importance to evaluate whether such educational interventions indeed have the potential to address the needs of all learners equally. In its focus on the literacy practices that take place in an inclusive classroom, this article aims to begin such an assessment.

Theoretical frameworks

The New Literacy Studies (NLS), with their focus on literacy as social practice rather than autonomous skill (Street, 1995), provide a fitting framework for describing and analyzing literacy practices in a mainstream FET classroom that includes Deaf students. This framework is appropriate for at least two reasons. First, the NLS describe and interpret multiple forms of literacy practice involving not only written language, but other modes – visual, gestural – that play a role in communication (Kress & Street, 2005). The NLS therefore accommodate analysis of spoken, written and signed literacy practices, as well as interactions between modes. Second, the NLS do not single out deficit in people's literacy practices, but instead operate from an ideology that accommodates and values difference. This position challenges educational situations where dominant social discourses become barriers to learning for non-mainstream students (Gee, 1996). While two recent studies engage the NLS in relation to Deaf education (Czubek, 2006; Morgans, 2009), as yet no research has used the framework to describe and analyze literacy practices in an inclusive educational environment where Deaf students get access to mainstream education through a sign language interpreter.

In its acceptance of multiple forms of meaning-making and its activist stance, the NLS resonate well with the Social Model of Disability, which similarly counters the pathological, deficits-based biomedical model that focuses on disability as impairment. Instead, it emphasizes the need for assimilation or 'normalization' of differences. The Social Model of Disability advocates diversity and accommodation of all people in society, including those with disabilities. Disability is seen as the result of 'disabling environments', such as segregated social arrangements or social and structural barriers, whether physical, organisational or attitudinal (Corker, 1998; Heap, 2003). It is argued that these barriers deny people with disabilities the opportunity to participate fully in society. In the Deaf context in particular, issues of disability are contentious, with members of the group arguing that they are, in fact, a linguistic minority rather than a disabled group (Ladd, 2003). Deaf people feel that their being-in-the-world has more in common with language minorities and that it needs to be viewed within a social, cultural and linguistic context that highlights not only their lack of hearing, but also their contribution to society of a language and a culture. More importantly, perhaps, this model emphasizes the complicity of society in partially constructing the 'disability' of Deaf people.

Methodology

This article uses a case study approach (Stake, 1995; Yin, 1994) to observe language and literacy practices in an inclusive FET programme in South Africa in 2006. In keeping with the NLS framework, the data comprise discourse and literacy practices generated in authentic contexts. No externally imposed language proficiency tests were administered or out of context tasks performed. Speech, reading, writing and signing activities that occurred naturally as part of classroom practice were recorded in field notes or on video, which were transcribed into English

by a hearing researcher proficient in SASL, assisted by a Deaf research assistant highly proficient in SASL. The classroom discourse analyzed includes spoken, written and signed language produced by the teacher, students (both Deaf and hearing), and the interpreter. Artifacts analyzed include writing on the board, textbooks, and various forms of student writing.

Participants in the study included 25 students (three were Deaf), enrolled in a Business English course, as well as their teacher and a SASL interpreter. All participants took part voluntarily and gave written consent. The research was approved by the University of Cape Town's Faculty of Health Sciences Research Ethics Committee (July, 2006).

Common methods of classroom conversation analysis are used, in particular Initiation-Response-Evaluation/Feedback (IRF) sequences (Rojas-Drummond, 2003) and frames of reference acting as contextual foundations for interpreting literacy practices (Mercer, 2000). Critical discourse analysis is used both "critically and constructively" (Luke, 1995: 12): in the first instance to investigate whether aspects of the spoken, written and signed discourses of this inclusive classroom create and perpetuate relations of inequality or erect barriers to learning (Gee, 1996), specifically ones contributing to the 'disabling' of Deaf students; in the second instance to establish whether aspects of these discourses at any point function to "generate agency among students, teachers and others", disrupting relations of inequality (Luke, 1995: 12).

Discourse and literacy practices in an inclusive Business English classroom

Visually, the classroom is configured traditionally, with the teacher standing in front next to the board and overhead projector, and the students facing her in rows. The only observable difference is that an interpreter is sitting about three meters from the teacher, facing the Deaf students, who sit clustered at the ends of rows one and two.

The students in this classroom are from a variety of socio-economic and linguistic backgrounds. While some students are first language speakers of English, many others speak English as a second or even third language. For many the dialect of English spoken in their communities is very different from the English expected in class. The SASL interpreter uses English as first language and has acquired SASL as an additional language through informal training and exposure to Deaf adults.

The lessons analyzed in this paper are revision sessions preparing for the end of year examinations. The classroom discourse often consists of teacher-fronted whole class discussions, with the teacher addressing the students as a cohort in didactic mode. At other times the teacher uses the commonly observed three-turn discourse pattern dominating classrooms, namely Initiation of a topic of enquiry by the teacher, Response by an individual student or chorus of students, and Evaluation/Feedback by the teacher (IRE/F sequences). The data described below are presented as three short scenarios.

In the first scenario the teacher asks the students to read a short article – "Music Instrumental in Distracting Youth" – with a partner for a comprehension test. Two of the Deaf students group together, while the third teams up with a hearing student. This scenario provides graphic illustration of the diverse literacy practices co-existing in this classroom. Of the two Deaf students partnering each other, one reads silently to herself while the other signs each word,

pulling confused faces and using finger spelling interspersed with signs. The hearing student mouths out loud while reading, pointing to words with a pen as he reads, while the third Deaf student's gaze follows the path of this student's pen (field notes, 10/10/06).

While there is no way of knowing what these students were achieving while doing this activity, their visibly different ways of reading capture the complex diversity that could underlie even the simplest literacy task in the classroom. Moreover, similarities and differences cannot be predicted. Some hearing and Deaf students may resemble each other in their reading styles, while the Deaf students may differ from each other. The hearing student mouthing the words may be trying to compensate for reading in a second language and poor comprehension, just like the Deaf student translating back into a signed language. The Deaf student reading silently may resemble any of the other second or first language students, depending on her educational background and proficiency in English. While the topic of the passage, musical instruments, probably excludes the Deaf students to some extent in that their prior experience of music must be limited by their lack of hearing, some of them may still have a good theoretical knowledge of musical instruments. At the same time, some hearing students' understanding of the text may also have been compromised by lack of exposure to music and musical instruments and, given that many students in the class (including the Deaf students) are second or third language speakers of English, the pun on "instrumental" in the title probably escaped many. Finally, in a class marked by extremely disruptive and resistant behaviour by some of the hearing students, several students do not even attempt the reading task.

What this scenario therefore illustrates vividly is that the diversity of literacy practices and forms of participation in this classroom do not necessarily align with students' ability or inability to hear. It also illustrates that in the inclusive classroom there could be any number of potentially overlapping and discrete barriers to participation and learning for Deaf as well as hearing students.

The second scenario involves a writing task focused on business letters of enquiry. The teacher uses scaffolding questions to assist the class in constructing a traveller's written enquiry to a tourist company about a holiday in Dubai. She verbalizes and writes three key questions on the board – 'Who am I?', 'Who is the letter from?' and 'Who is the letter to?'. The interpreter presents an accurate signed translation in synchrony with the teacher's spoken and written questions, thereby fully capturing both the content and process of the lesson for the Deaf students (video, 18/10/06). This is an example of inclusive classroom practice that could benefit more students than just the Deaf ones. All students should benefit from the use of scaffolding which makes explicit key principles of the genre. Another important aspect evident here is that the teacher does not leave it up to the interpreter to ensure that the Deaf students are included, but shares this responsibility.

The third scenario represents a more complex situation, capturing the extent to which Deaf students can access content and participate at both a cognitive and affective level in the classroom, but also highlighting a number of factors that can obstruct their access to classroom content, process and affect. In this scenario, represented in the transcript below, the teacher is commenting on the letters of enquiry students had started writing in class the day before and had to complete for homework.

To facilitate readers' understanding of the transcript, we offer the following brief explanation of transcription conventions:

- each line of transcription consists of two sections (a and b) that represent simultaneous speech/signing/reading/writing occurring in the classroom;
- the *voices* of *hearing* participants are represented in *italics* in section (a) of each line;
- a non-literal gloss of the interpreter's **signing** appears in **bold** in section (b) of each line; finger spelling of a word is indicated with full stops between letters, e.g. **l.i.s.t**;
- the spacing of (b) in relation to (a) captures the approximate timing of signing in relation to speech;
- **writing** on the board occurs in **bold italics** and is placed in section (a) of the relevant lines;
- "stage directions" are shown in normal script and are placed in square brackets [];
- conventional punctuation has been inserted to indicate features of speech, e.g. pauses, emphasis and questions.

In summary, an impression of what hearing students have access to in this scenario can be gained by reading the first section (a) *in italics* of each line of transcription. Likewise, the input that the Deaf students have access to can be derived by reading just the second line (b) of **bold transcript** representing the interpreter's signing, as well as the three short phrases in **bold italics** (in lines 6a and 7a) representing the teacher's writing on the board.

Scenario 3: Feedback on Letters of Enquiry

1a Teacher: ... *I want you to listen to Rose's letter, what she has written.... How did you start your letter?*

1b **Interpreter signing:** **Student at the back**

2a Rose: *I am interested in visiting Dubai as I am a vegetarian and it would be most welcome if you*

2b **says how to start the letter** **she is saying** **I am interested**

3a *could if you could send information about breakfast*

3b

4a Teacher: *Ok hang on there. Uhm letter of enquiry, just go to page [pause] 83, page 83. Now what you*

4b **send me information about breakfast.** **Student is**

5a *have said isn't incorrect but you need to add just something a little bit more polite. So you start,*

5b **looking for letter of enquiry, is paging through book, page page 83,** **so student's answer**

6a ***I would appreciate it*** [teacher writes on board while dictating] ***if you would send me*** [writing] ***the***

6b ***is wrong because it should have been more friendly*** [All students, including Deaf students, are

7a ***following information*** [stops writing] ***and remember we said if you want to make it a list*** [interrupted]

7b ***copying from the board***

8a Rose: *I said I said it would be most welcome if you could send me information, it's it's polite!*

8b **Interpreter signing: remember if you want a l.i.s.t. you can write down list**

9a Teacher: *OK, just read it again please*

9b **No signing**

10a Rose: *I am interested in visiting Dubai as I am vegetarian and it would be most welcome if you could*

10b **No signing**

11a *send me information about your breakfast*

11b **No signing**

12a Teacher: *Ja, but now you must put it the other way round. So you say, I'm I'm interested in visiting*

12b **No signing**

13a *Dubai and I would appreciate it if you would send me the following information, because you haven't*

13b **No signing**

14a *just got one point, it's not just the breakfast, you want to find out about*

14b **Interpreter signing: You haven't got one point**

15a Rose: *I have got other things!*

15b **it's not just the point about breakfast**

16a Teacher: *But now you haven't got it all together. You've got a little in the beginning then a little bit*

16b **Interpreter signing: You haven't got it all together all the questions**

17a *later on, can you see that?* [teacher turns to address Deaf student but uses incorrect name] *Denise?*

17b **Interpreter speaking to teacher and pointing: Sorry, Kelly wants to show you hers, give the answer**

18a Teacher: *OK I'll read you what Kelly wrote:* [reads from paper] *"I will appreciate I would appreciate*

18b **No signing**

19a *the following information about the visit to Dubai which was advertised in your magazine".*

19b **No signing**

20a Teacher [talking] *OK, so the man knows straight away what you do or what you are asking*

20b **Interpreter signing: That's right**

21a *about, then her second paragraph is her questions, her information.* [To Deaf student]: *That's fine.*

21b **Interpreter signing: You put the second paragraph,**

22a Teacher: *Anyone else wants me to see theirs?*

22b **you put the enquiries.**

In this interchange there are many instances of inclusive practice that functions well, or shows potential for functioning well with some adjustment. The interpreter to some extent makes sure that the Deaf students share a frame of reference with the hearing students, first by pointing out that the speech turn has shifted from the teacher in front to a student at the back who is offering a contribution (1b) – the Deaf students therefore have the same contextual foundation as the hearing students for interpreting the classroom conversation (Mercer, 2000: 41-43). She then gives the Deaf students access to some of the content of Rose’s contribution (admittedly in a reduced form), and re-orient the frame of reference back to a didactic moment, when the teacher halts the student’s reading and refers her to a page in the textbook (4a and b). Like the hearing students, the Deaf students also have visual access to the model introduction that the teacher then writes on the board (6a and 7a) but, unlike the hearing students, only partial access to the reason why the teacher is writing on the board and why her version is superior to Rose’s attempt.

The most striking moment of inclusive practice is when Kelly, one of the Deaf students, gestures that she wants her letter to be read. The interpreter relays her offer in good time to the teacher and the teacher takes up the offer, thereby ‘giving voice’ to the Deaf student’s writing. Moreover, the beginning of Kelly’s letter is very close to the model introduction that the teacher has written on the board, earning her affirmation that indicates to her and the hearing students (but not the other Deaf students) that she is a competent participant in this literacy activity. In this instance, Kelly exerts agency like any of the more motivated hearing students. Her contribution is woven seamlessly into the discourse and literacy practices of the classroom and, by eliciting praise, integrates her (and to some extent the other Deaf students) at an affective level as well.

Despite these moments of inclusion, the scenario displays clear instances where Deaf students are excluded from or have only partial access to what is happening in the classroom. This can be seen most clearly through an analysis of the IRF sequencing that occurs and the extent to which each of the three turns of a succession of IRF sequences is conveyed to the Deaf students. The teacher here shapes her teaching with what has been termed ‘spiral’ IRF sequences, a variation that takes students’ responses “to (potentially) higher levels of understanding and/or performance” and is “typically accompanied by a variety of co-constructive and scaffolding strategies” (Rojas-Drummond, 2003:39).

It is evident that at all stages of the IRF sequencing the Deaf students receive an impoverished version of what is happening in class. While the interpreter manages to direct their attention to the back of the class where the teacher has solicited a response, the content of Rose’s response is signed in very reduced form, vastly exaggerating the somewhat peremptory tone of her enquiry: “she is saying, I am interested, send me information about breakfast” (2b-3b). The teacher interrupts Rose’s response and embarks on extended feedback which first reiterates the genre, “letter of enquiry”, then refers to a page in the textbook for more information (4a), suggests a more appropriate tone for the genre than the one Rose used (5a), and finally models an example of such writing on the board (6a-7a). The feedback the Deaf students receive is again significantly reduced, especially as far as technical language is concerned. Genre terminology is not re-established for them, and while the teacher softens her criticism through a double negative (“what you have said isn’t incorrect”) and multiple hedging words (“add just something a little bit more polite”), the interpreter’s signing goes in the opposite direction and gives a blunt version: “so student’s answer is wrong because it should have been more friendly” (5b). This interpretation results in a mismatch of discourses, in that the teacher’s use of the words “more polite”

invokes the slightly distant and formal attentiveness of business discourse, whereas the interpreter's signing of "more friendly" invokes a more informal, everyday discourse. Although the teacher's model answer on the board is as visible to Deaf students as to hearing students, it reaches the Deaf students through a somewhat different process and therefore appears in a different frame of reference from the one established for hearing students. There seems to be an assumption on the interpreter's part that since the writing on the board is visible to Deaf students, it does not need further mediation and contextualization. Because of this lack of framing, the teacher's subsequent suggestion that the different points of information requested in the introduction of the letter could be organized as a list (7a) probably does not make sense to the Deaf students, even though the interpreter finger spells, then signs 'list' (7b).

A serious omission in the interpreter's signing is that she frequently does not sign contributions from hearing students or only partially signs the teacher's feedback in response to these. The interpreter seems to assume that the teacher's didactic utterances are of more importance than the classroom conversation in which they are embedded. When Rose temporarily interrupts the IRF sequence with a contestation (8a) that goes back to the concept of 'politeness', it gives the teacher the opportunity to re-solicit Rose's response and to spiral back to feedback which attempts to move the students' understanding of textual form and function in business writing to a higher level. Rose's conception of 'politeness' is satisfied by piling on the subjunctives in 2a and 3a ("it would be most welcome if you could if you could send information about breakfast"). In her feedback, instructing the student to "put it the other way round" (12a), the teacher works with a broader notion of 'politeness' that combines tone and textual organization: her message is that the letter of enquiry would be more appropriate if the reader is not bombarded from the outset with specific, disorganized demands, but that a clear introduction giving a sense of the scope of enquiry would in itself signal respect. Rose's vehement contestations ("it's polite!" in 8a and "I have got other things!" in 15a) and the beginning of the teacher's feedback are not signed to the Deaf students, which probably means that they do not share the frame of reference that gets constructed for the rest of the class to learn from this interchange. When she does start signing the teacher's feedback, the interpreter gives an impoverished version that captures neither the criticism about the student's failure to demonstrate the scope of enquiry, nor the strategies mentioned for exercising agency as a writer and improving textual coherence.

The Deaf students also do not get a sense of the cognitive and communicative process through which the teacher acknowledges that Rose's answer is partially correct, but that the whole needs to be reworked to fulfill the requirements of business writing. When the teacher checks at the end ("can you see that?" in 17a), she invites both Rose and the class to accept her feedback as a reasonable resolution of Rose's challenge. The Deaf students are left out of this process. They are furthermore completely excluded from the affective side of this interchange between student and teacher (from 8a to 17a) and throughout show clear signs of disorientation. Left to their own resources, they can be seen looking repeatedly at each other, the interpreter, the teacher and over their shoulders at Rose as they try to make sense of the altercation.

Even when a Deaf student has her introduction read out in class, there is still some exclusion operating. The interpreter does not sign the content of the letter to the other Deaf students, so they miss out on an affirming example, and while the teacher's positive feedback is partially signed, it is done so vaguely that very little learning can be derived from it: "That's right, you put the second paragraph, you put the enquiries." This version again does not capture the more technical meta-language through which the

teacher speaks about writing, in this case referring to paragraphing as a way of structuring the different stages of the enquiry.

In scenario 3, spiral IRF sequencing allows for strong representation of student voices (including the ‘voice of a Deaf student’) as well as scaffolded feedback from the teacher. It is clear that students feel empowered to offer their work to be read out, interrupt the teacher and contest her feedback, while the teacher uses feedback on the students’ writing to move them towards a higher level of understanding. It has already been shown that the teacher takes responsibility for including the Deaf students in her teaching. However, she has to rely on collaboration with the interpreter to ensure that the Deaf students are included in classroom activities and have an opportunity to learn from them. In this respect, the inclusive classroom calls for high levels of consciousness on the part of both the teacher and the interpreter, and for flexible collaborative structures. Scenario 3 suggests that full inclusion of Deaf students could have been achieved if the teacher and the interpreter in this classroom had a shared knowledge of the conventions of business discourse in English, a shared meta-language for giving feedback on writing, and a shared awareness of the Deaf students’ complex positioning between languages and modes of language.

Discussion

The scenarios analyzed above show trends that feature more generally in the data. It is often clear that the interpreter does not have adequate proficiency in the discourse of business communication in English, leading to inaccuracies in her signing. For instance, in another class she mistranslates the concept of ‘concern’ as it appears in the standard clause ‘to whom it may concern’, as ‘worry’. What is also evident is the general mismatch between the amount of talking and the amount of signing that occurs. This is most noticeable when the classroom discourse becomes interactive. When the teacher switches back to didactic mode and becomes the sole speaker, it often acts as a cue for the interpreter to resume signing more consistently. This also happens when the teacher directly addresses the Deaf students, but even then the signing is frequently partial, insufficiently framed, or incorrect. These problems are exacerbated in interactive sessions, where the focus of attention and frames of reference shift continually.

By far the most problematic feature evident in the interpreter’s signing of interactive classroom discourse is lack of synchrony. There is an inevitable lag-time in all interpreting situations that complicates conveying the content, process and affect of interactive talk fully and accurately. This has implications for Deaf students’ access to learning and to classroom procedure. When talk becomes multi-sourced and gains momentum, it becomes difficult for the interpreter to keep up, and extremely difficult for the Deaf students to participate fully. This is exacerbated when there are quick call-response interchanges or what are called ‘loop’ IRF sequences. During these, the teacher does not solicit responses from individual students but rather from the class generally or in chorus form, and feedback is minimal beyond identifying correct or incorrect responses; thus, the teacher initiates a response and the class chants a short response together or an unspecified student calls out an answer (Rojas-Drummond, 2003). It is understandably hard for the interpreter to keep up with fast-moving exchanges and therefore Deaf students are excluded from such sequences.

Synchrony between verbal talk and signs is more possible during spiral IRF sequences, where more extensive talk and pauses to reflect occur at most turns. However, it is clear that this would only happen if both the interpreter and the teacher are aware of the pedagogic importance of these sequences for all

students and consciously adjust the pace of talk, signing and turn-taking to give Deaf students a chance to participate. In the data there are instances where Deaf students try to attract the interpreter's or teacher's attention to offer a response in spiral IRF sequences, but are either not noticed in time, or are not given the time to sign a response and have it relayed to the teacher and peers. In these instances Deaf students do not possess direct or equal access to classroom discourse.

In summary, classroom observation at this FET college shows that there definitely is the potential for establishing inclusive education for Deaf students in a mainstream classroom. In this respect, the intervention at this college demonstrated an opportunity for Deaf students to learn text literacy skills at an FET college where previously there had been none. Observing these sessions revealed Deaf students behaving like other young people, co-constructing their educational space and exerting agency as young adults. It also demonstrated that Deaf students' difference is one of many forms of difference that need to be negotiated in linguistically and culturally diverse classrooms. The data therefore show that providing a sign language interpreter for Deaf students could be an important step towards removing linguistic barriers to learning at this level of education (Gee, 1996). Such an intervention would at the same time remove barriers to social participation and be in keeping with recommendations advocated in Education White Paper 6 (2001).

Analysis of the data however also highlights many difficulties and challenges around providing fully inclusive education for Deaf students. First, the signing as it occurs in this classroom frequently represents an impoverished form of language. It is often incomplete, lacks discourse specificity, and is not sufficiently used as a meta-linguistic tool for building knowledge or practical skill in Business writing in English. All these features point to the serious shortage mentioned earlier of appropriately trained interpreters working in education in South Africa (Aarons & Akach, 2002; DEAFSA, 2009). The Bilingual-Bicultural approach to literacy education for Deaf students at this level would rely on the presence of fairly highly developed cognitive and meta-linguistic skills in the signed language, which would then be used to build similar skills in the additional language (Johnson *et al.*, 1989; Strong & Prinz, 1998). This is not possible if the signed language is used at an inappropriate (usually inferior or more contextual) level relative to the cognitive and discourse requirements of the second language.

Second, it has to be recognized that some forms of pedagogic practice in the classroom impede the interpreter's signing, for instance the use of quick call-response exchanges as in loop IRF sequences. Even a highly skilled interpreter would struggle to keep up in sessions dominated by such sequences. There is debate in the literature regarding the IRE/F structure in teaching and the argument has been made that it retains all power in the hands of the teacher, restricting and controlling contributions from students (Lee, 2007). As has been indicated, however, IRF sequences do not preclude agency on the part of students, and spiral IRF sequences in particular allow for scaffolded feedback based on extensive student contributions and contestations (Rojas-Drummond, 2003). The more explicit the teacher's verbal and written language in commenting on and modelling literacy practices, the more possible it would be for the skilled interpreter to facilitate a Bilingual-Bicultural approach. Spiral IRF sequences also lend themselves to signed interpretation in that their pace is more leisurely. Therefore, both interpreters and teachers need to be trained in forms of language and pedagogy that would benefit all students, including Deaf students. Furthermore, teachers and interpreters need to be trained to work together in teaching text literacy and discourse genres, for instance by together developing their meta-linguistic explicitness and understanding of text structure and function. They also need training in

anticipating and solving problems with timing and synchrony, and developing ways of sharing responsibility for students' inclusion.

Notes

¹ Deaf with a capital 'D' indicates membership of a socio-cultural community, which uses a signed language as its preferred language, as opposed to deaf (lower case 'd'), which indicates hearing loss.

² South African Sign Language is denoted as a 'preferred' language rather than a 'first' language or 'mother tongue' as most Deaf people have hearing parents and are exposed to a signed language only once they encounter other Deaf people, often when they enter school (Aarons & Akach, 2002). A preferred language is one that is most easily developed to a level appropriate to age and stage of development (Knight & Swanwick, 2002).

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