Building Connections Between the Signed and Written Language of Signing Deaf Children

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- In research relating to writing and deaf students there is a larger body of work that focuses on error patterns and divergent structures in the final product than there is on effective writing instruction. (see Mayer, 2010 for a summary of error pattern research)

- Significant gains in both expressive sign language and written English result in a focus on building sign language and written English proficiency simultaneously (Dolstal and Wolbers, 2014)

- Teachers of the Deaf often do not take advantage of sign language skills as a bridge to English literacy. (Freel et al, 2011, p. 18)

- Teachers miss the opportunity to teach their students how to map the grammar of one language to the grammar of the second language (Chamberlain, Morford and Mayberry, 2000 cited in Freel et al, 2011, p. 18)

Sign Bilingual Foundations

At the foundation of many bilingual programs is the need for a strong first language in order to learn a second language. Cummins’ (1989) theory of Linguistic Interdependence is founded on the belief that all languages share common underlying proficiencies. The theory has been used to explain how children learn a second language by transferring from and building connections with their first language. His hypothesis has been applied to the sign bilingual context with many sign bilingual programs having at their core the notion that a firm foundation in sign language (in Australia, Auslan) will allow transfer to the written form of the majority language (in Australia, English).

The application of Cummins’ theory to the sign bilingual scenario has proved contentious, with some researchers, most notably Mayer and Wells (1996) and Mayer and Akamatsu (1999) maintaining that modal differences in the two languages make the application of the theory in the sign bilingual context tenuous. Mayer and Wells (1996) Double Discontinuity hypothesis questions the level of transfer possible when sign languages do not have a written or spoken form and the spoken form of the majority language is not fully accessible to the deaf learner. Proponents of this perspective suggest that some type of English-based signing must be required for a child to learn to write English.
In response, Johnston (2002) argues that in reality many deaf adults achieve bilingual fluency in the absence of access to the spoken form of the language or an artificial English-based sign system. According to Johnston, deaf people have always had a way to represent the spoken language of the majority on their hands and they alter their signing depending on the audience and purpose of each context. He maintains that deaf people may choose to sign in an English-like way [sometimes referred to as contact signing, using a natural sign system (Fischer, 1998) or signing in English] while still maintaining some of the visual-spatial grammatical features of sign language. This sign system has evolved out of natural language contact between the Deaf and hearing communities and is more comprehensible than a contrived English-based sign system such as Signed English. Johnston’s response to Mayer and Wells (see diagram below) offers a visual representation of how Deaf people who achieve literacy may have other avenues into written language that don’t rely on spoken English or artificial sign based systems. He speculates that one of these avenues is through the use of natural sign systems. The ability to move back and forth between Auslan and signing in English has been referred to as moving along a sign continuum.

![Sign Continuum Diagram](image-url)

Stark (personal communication, April, 2010) applied Johnston’s hypothesis to the sign bilingual classroom, suggesting that further exploration of the contact sign continuum in the sign bilingual classroom context is warranted. Stark argues that learning to exploit the continuum as a pedagogical tool forms an important component in a teacher’s repertoire in teaching English to the signing deaf child. This is supported by recent findings by Dostal and Wolbers (2014) who found that a combination of English represented by sign language, metalinguistic discussion, direct comparisons/contrasts and interactivity between the two languages is demonstrating improved outcomes in both languages for students.
In order to devise appropriate pedagogical approaches that exploit the use of natural sign systems, teachers need first to establish the skill set of their students in both sign language and the written majority language.

**Analysing the sign Language Sample**

Knowing where to target teaching is fundamental to the teaching and learning cycle and as critical in programming for teaching students Auslan and English as it is in any other area of learning (Baker & Stark 2013). In the first phase of the teaching cycle, teachers consider the types of student assessment they will collect and analyse so they can benchmark the skills the student has and where they will program for them to go next.

Until recently, any programming for language improvement in Auslan, if addressed at all by teachers, has largely been hit and miss. This has been due in part to the fact that there has been no standardised assessment instrument available in Australia for teachers to measure their students’ skills in sign language. The newly released Assessing Auslan (Australian Sign Language) Development Tool adapted by Schembri, Hodge & Rogers, 2014 and based on the BSL Production and Receptive Tests by Herman, Grove, Holmes, Morgan, Sutherland and Woll, 1999:2004), has at last provided teachers with a tool to comment on student progress in Auslan.

While such a tool is invaluable to teachers, a single point-in-time instrument alone is not adequate. Teachers need to be able to apply sign language linguistic and acquisition knowledge to develop methods of monitoring students’ language growth, strengths, and weaknesses in a formative manner across a term, a semester or a year. Tools such as ELAN (https://tla.mpi.nl/tools/tla-tools/elan/) make recording this task easier, allowing teachers to analyse students’ expressive language samples in the context of the classroom thus yielding valuable information about student progress and providing the critical formative perspective.

Using the work of Morgan around the analysis of Sign Language narrative and by applying the foundations and processes of functional grammar analysis to a signed language, ELAN can be used to annotate analyses of students’ Auslan texts to reveal areas of strength and weakness in their sign language narrative development (Morgan cited in Schick, Marschark and Spencer, 2006). This provides teachers with critical information about areas to improve in the student’s L1 but also informs about what resources students are drawing on for transfer to their L2.

**Analysing the Written Language Sample**

The challenges associated with deaf children learning to write in the majority language have long been a topic for discussion amongst teachers and academics and yet attempts to explain and address the problem have not effected any significant improvement in the final product for deaf writers over the last 80 years (Mayer, 2010).

To analyse the written language of deaf students, research has often drawn on tools developed for hearing children which largely analyse using a traditional grammar approach and compare to norms for hearing children. These assessments consistently provide a summary of errors in form that are supported by the significant body of literature that focuses on error patterns and divergent structures in the writing of deaf students. Such errors have been well documented in research as common to the writing of deaf students for generations (see Mayer, 2010 for a summary of error pattern research).
Anecdotally, it would seem teachers of the deaf are largely familiar with many of these error patterns but rarely formally analyse written language samples: instead most commonly use the “eyeball method” to comment on the divergent structures in their students’ work.

Halliday’s research (1994) suggests there may be benefit to teachers in viewing student language samples through a functional grammar lens allowing a focus on function rather than form alone. Work by Derwianka (2013), provides teachers with a method to analyse written language samples focussing on function and enabling them to make a closer examination of how a child constructs meaning in their writing. Using such analysis may minimise the distance between signed and written language brought about by differences in primary mode, and instead highlight areas in both samples that connect and provide pedagogical platforms for teachers.

However, regardless of whether a traditional or functional grammar approach is taken to analysis, it can be argued that thorough analysis of students’ written samples by teachers is imperative. Given the lack of improvement in writing for signing deaf children for the better part of a century, a new way of using the data from the analysis, and an overhaul of the writing instruction provided to deaf students as a result, is long overdue.

**Building Connections Between Signed and Written Language**

A review of research on writing instruction for deaf children found only 16 studies in the last 25 years and half of these occurred over 15 years ago (Strassman & Schirmer, 2012). As already stated, a far larger amount of literature is dedicated to the summary of common error patterns in the final product of deaf writers (Mayer, 2010).

It seems plausible that rather than the product only/end point lens through which teachers have traditionally viewed deaf students’ writing (and therefore tackled remediating from the English divergent structure perspective only), teachers could assess language samples in both languages and consider how each analysis can inform the other. Doing this will highlight the language needs of students in both their L1 and their L2 and importantly draw attention to the connections around which to design pedagogy, that can lead to enhanced written English.

This is supported by Menendez (2010) whose thorough analysis of deaf students’ writing revealed that they pool their resources and knowledge of both languages to achieve a written product and often use structures and linguistic understandings from their L1 to fill the gaps in their knowledge of the target written language. Powerful reinforcement for this “pooling of resources” notion comes from Wolbers, Bowers, Dostal & Graham (2014) who have been able to show that while developing L2, deaf writers embed L1 features in their writing. They suggest that, in part, L1 transfer accounts for the documented error trends in the writing of deaf students.

With this in mind, Dostal and Wolbers (2008a, 2008b, 2010 and Wolbers, Dostal & Powers, 2012) considered the pedagogy of teaching writing in the sign bilingual context. They trialled the SIWI (Strategic and Interactive Writing Instruction) cognitive apprenticeship approach, the results of which offer the most compelling evidence for effectiveness of anything presented in the literature to date (Strassman & Schirmer, 2012).

One of the three key principles of the SIWI approach is to heighten metalinguistic awareness by making explicit comparisons between ASL and English as opposed to traditional, typical, monolingual instruction which demonstrated little progress in the same population (Dostal and Wolbers, 2014).

These findings suggest more support for Cummins’ *Linguistic Interdependence Theory* (1990) and Johnston’s linguistic perspective on deaf adults’ transfer of proficiencies from sign language to written language (2002). It would seem that what has been missing in the intellectual debate around the application of Cummins’ theory of transfer to sign bilingualism is the application of
sign language linguistic knowledge. Recent research in the deaf education domain which draws on findings from both the sign language linguistics and deaf education arenas are revealing patterns never highlighted before.

Skills teachers need to build connections...

The separation of sign language linguistics from education mirrors the historical story for deaf people and the exclusion of their language in education. So, not surprisingly, research also shows that teachers of the deaf often do not take advantage of students’ sign language skills as a bridge to English literacy (Freel et al, 2011) and miss opportunities to teach students how to map the grammar of the first language to the grammar of the second language (Chamberlain, Morford and Mayberry, 2000 cited in Freel et al, 2011).

In order to apply the most recent evidence to practice, teachers need training that supports:

• growing their sign language fluency and knowledge of sign language linguistics
• enhancing skills to analyse both the L1 & L2 language of their students
• increasing experience with pedagogy that connects two languages, including:
  • how to capitalise on points of transfer between two languages that have different primary expressive modes with a focus on metalinguistic comparisons and connection building (Dostal and Wolbers, 2014). In order to do this, Dostals and Wolbers reiterate that teachers must have strong language skills and a deep metalinguistic awareness in both languages.
  • how to exploit the contact sign continuum to build these connections. As noted by Johnston (2002), “there is a very high level of skill in being able to sign in English proficiently, and it can be difficult to do effectively. In particular, one needs excellent productive and receptive fingerspelling skills, clear and rapid signing ability, and a good English vocabulary together with a solid knowledge of Auslan signs to know which signs are best suited to represent particular English words in a given context”. (p.25)

In summary, educators of deaf children, following a sign bilingual methodology, need to be able to assess student linguistic competency in both languages. This requires they have strong language skills and extensive linguistic understandings in both languages. With this knowledge they will be able to identify the language needs of students in both their L1 and their L2 and most critically highlight the connections around which to design pedagogy. Only when this occurs can they expect to see improved outcomes in both the expressive signed and written communication of their signing deaf students.
References


https://tla.mpi.nl/tools/tla-tools/elan/


