

AN HISTORICAL OVERVIEW OF SIGNED LANGUAGE INTERPRETING RESEARCH: FEATURING HIGHLIGHTS OF PERSONAL RESEARCH

Jemina Napier
Macquarie University
jemina.napier@ling.mq.edu.au

Resumo: Nos últimos vinte e cinco anos, as pesquisas sobre interpretação de línguas de sinais se desenvolveram como uma sub-disciplina dos estudos da tradução e interpretação. A análise bibliométrica de Grbic (2007) das pesquisas em interpretação de línguas de sinais (SLI) apresentou um quadro das pesquisas que tem sido conduzidas ao longo dos anos. No desenvolvimento de um banco de dados sobre a literatura em SLI, Grbic analisou 908 pesquisas produzidas entre 1970 e 2005. Ela verificou que há uma evolução significativa na produção com o passar do tempo, com uma aceleração entre a metade e o fim da década de 90. A maioria dos textos foram publicados em periódicos ou em coletâneas e distribuídos em diferentes temas de pesquisa. Os temas incluem discussões de disposição e formas, aspectos profissionais, questões relacionadas com a qualidade, ética, aspectos socio-culturais e papéis do intérprete, questões linguísticas e cognitivas e aspectos relacionados com pesquisas. Em suas conclusões, Grbic afirma que “Os dados revelam que as pesquisas em interpretação de línguas de sinais podem contribuir para o conhecimento e para o entendimento geral da interpretação como tópico de pesquisa científica” (p.45) Assim, no sentido de ter uma visão ainda mais geral sobre os estudos de interpretação, torna-se relevante apresentar as áreas centrais das pesquisas em SLI. Partindo de dois artigos (Napier, 2005 e no prelo), este artigo apresenta uma visão seletiva das pesquisas em SLI, focando nas pesquisas na área da interpretação educacional, com algumas inserções dos estudos pessoais realizados em SLI em aulas, no nível universitário.

Palavras-chave: pesquisas em interpretação de línguas de sinais, visão histórica.

Abstract: In the last twenty-five years research into signed language interpreting has burgeoned as a sub-discipline of translation and interpreting studies. Grbic's (2007) bibliometric analysis of signed language interpreting (SLI) research provides an interesting picture of the research that has been conducted over the years. In developing a database of SLI literature, Grbic analysed 908 research texts produced from 1970 to 2005. She found that there was a significant increase in production over that time, which accelerated in the mid to late 1990s. The majority of texts were published as journal articles or in collections, and covered several key themes including discussions of settings and modes, professional issues, quality issues, ethics, role and socio-cultural issues, linguistic issues, cognitive issues and research issues. In her conclusion Grbic states "The data revealed that research into SL interpreting can contribute to the enhancement of knowledge and to the general understanding of interpreting as a topic of scientific research" (p.45) Thus in order to inform interpreting studies more generally, it is worth canvassing some of the key areas of SLI research. Drawing on two other articles (J. Napier, 2005, forthcoming), this article provides a selective overview of SLI research, then focuses on a key area of SLI research: educational interpreting, with some highlights from personal research studies on SLI in university lectures.

Keywords: signed language interpreting research, historical overview.

SLI research: an overview

Gallaudet University Press has introduced a Studies in Interpretation Series with volumes featuring quantitative and qualitative SLI research (SLI (Metzger, Collins, Dively, & Shaw, 2003; Metzger & Fleetwood, 2005, 2007; Russell & Hale, 2008); and several other volumes have been published which collate discussions of SLI research (Cokely, 1992c; Harrington & Turner, 2001; Janzen, 2005; Marschark, Peterson, & Winston, 2005). Furthermore, books are available based on the doctoral dissertations of several researchers (Cokely, 1992b; Metzger, 1999; Nicodemus, 2009; Roy, 2000; Russell, 2002; Stone, 2009b; Taylor, 1993); and the Sign Language Translator and Interpreter is a new research-focused journal published by St Jerome Press.

A large number of SLI research studies have adopted linguistic analyses of interpreting output, focusing on: psycholinguistic aspects of the interpreting process (Cokely, 1992a; Haas, 1999; Ingram, 1985; Isham & Lane, 1993); comparative text analyses of monologic interpretations into a signed language (Sheridan, 2009; Steiner, 1998; E. Winston & Monikowski, 2003); sociolinguistic analyses of interpreter-mediated interactions (Bélanger, 2004; Sanheim, 2003); SLI and bilingualism (Isham & Lane, 1994; J. Napier, Rohan, & Slatyer, 2007); analyses of evidence of language contact between spoken and signed languages in interpretation (Davis, 2003; Leeson, 2005; J. Napier, 2006); and analyses of interpreting co-working strategies (Cokely & Hawkins, 2003; J. Napier, 2007; J. Napier, Carmichael, & Wiltshire, 2008).

Various surveys have been administered on signed language interpreters to ascertain a demographic profile of the profession (Bontempo & Napier, 2007; J. Napier & Barker, 2003), as well as to glean practitioner perspectives on notions of quality (McKee, 2008) and practice (Napier & Slatyer, 2008).

Some SLI research concerns discussions of the ethical decision-making of SLI. In particular, authors have begun to question the nature of Codes of Ethics, and the application of Codes to professional practice. For example, in a survey of British Sign Language (BSL) interpreters, Tate and Turner (2001) presented a series of ethical dilemmas and analysed interpreter responses to those dilemmas. They found the (then) British SLI Code of Ethics seemed to disable interpreters by encouraging them to respond in certain ways, when in fact they knew an alternative approach would be more effective even if it seemed to contravene the Code. As a consequence, they suggested that the Code should be revised to reflect current demands placed on interpreters. Bergson and Sperlinger (2003) collected BSL interpreters views on ethical dilemmas that they have faced when interpreting in mental health scenarios, and their reflections on the decisions they made.

A more recent research-based approach to ethical and professional decision-making in SLI has been proposed by Dean and Pol-

lard (2001), who adapted Karasek's (1979) *demand-control theory* to examine the complex occupation of SLI. Demand-control theory is a job analysis method useful in studies of occupational stress and reduction of stress-related illness, injury, and burnout. Dean and Pollard have described sources of demand in the interpreting profession, including linguistic, paralinguistic, environmental, interpersonal, and intrapersonal demands. They suggest that interpreters can use *decision latitude* and implement various controls to deal with the demands placed upon them. Dean and Pollard have carried out various research with interpreter educators and consumers to inform the development of the DC-S and how it can be applied in SLI education (Dean & Pollard, 2005, 2006, 2009).

Studies have also focused on other key areas: legal (Brennan, 1999; Brennan & Brown, 1997; Ibrahim-Bell, 2008; Mathers, 2006; J. Napier & Spencer, 2008; Reed, Turner, & Taylor, 2001; Russell, 2008b; Turner, 1995; Turner & Brown, 2001); medical (Barnett, 2002; Sanheim, 2003; Smeijers & Pfau, 2009); mental health (Brunson & Lawrence, 2002; Harvey, 2003); and conference (Bidoli, 2004).

There is also an emerging body of work which reports research on SLI education, with analyses of teaching program delivery, activities, resources and philosophies (e.g., Leeson, 2008; McDermid, 2009). Another aspect of SLI education-related research focuses on aptitude for interpreting, through the analysis of linguistic competence, skills competence, personality and other characteristics as potential predictors of SLI performance (Bontempo & Napier, 2007; Bontempo & Napier, 2009; Gomez, Molina, Benitez, & Santiago de Torres, 2007; Shaw, 2009; Shaw, Grbic, & Franklin, 2004; Stauffer & Shaw, 2006; Stone, 2009a).

Signed language translation (SLT) is an emerging area of research in the SLI field, which provides opportunities for both deaf and hearing interpreters to work, but it has little recognition within and outside of the SLI profession. Recent discussions of SLT demand that we extend our more traditional understanding of translation

as a process involving changing written text in one language to written text in another language. Leneham (2007) argues that the key is in the preparability and potential for correction, and that the target text is captured for posterity.

With the advancements in technology, this process can occur in either language direction, regardless of the language mode. Leneham (2007) documents six signed language translation processes that can be considered as separate to signed language interpretation, which occurs in real time and has limited potential for correction:

- signed source text (ST) (video) → spoken target text (TT) (audio) (e.g., voice-over for deaf TV programs);
- signed ST (video) → signed TT (video) (e.g., translation of a signed narrative into a different signed language on video);
- spoken ST (audio) → signed TT (live or video) (e.g., translation of a song, such as the national anthem or a hymn);
- written ST → signed TT (live) (e.g., sight translations of social services leaflets or educational exam papers; translation of auto-cue into a signed language for news broadcasts);
- written ST → signed TT (video) (e.g., translation of publications such as children's books, the bible; psychometric or educational assessment tools; government legislation and policy);
- signed ST (live or video) → written TT (e.g., witness testimony, conference paper-journal article; TV captions).

Theatre interpreting epitomises the hybrid between interpretation and translation (Leneham, 2005; Turner & Pollitt, 2002), as a signed language translator can prepare a translation by reading a script, watching pre-recorded footage of the play/musical or rehearsals, and watching a play/musical or rehearsal live. Signed language translators can 'edit' their translation by videoing

their ‘drafts’, watching them back and then revising the translation. The final translation though, is performed live in real time, and thus can be considered as an interpretation, as the translator will be influenced by what happens spontaneously, for example, if an actor stumbles over their lines, the translator may change the pre-prepared translation accordingly. Another hybrid form is ‘sign singing’, where a performer can read and listen to the lyrics of a song in order to prepare a translation, before performing it live in front of an audience (either as part of a stage production or a social karaoke night).

Recent SLI literature has begun to explore notions and practices of signed language translation (Banna, 2004; Gresswell, 2001); with descriptions of the translation of various written texts into a signed language on video. These include translations of educational assessment tools (Tate, Collins, & Tymms, 2003); psychiatric assessment tools (Cornes, Rohan, Napier, & Rey, 2006; Montoya et al., 2004); and children’s books (Conlon & Napier, 2004). Others have discussed the translation of signed texts into written documents, such as the dictation of letters (Cragg, 2002) or the translation of narratives (Padden, 2004). Even processes of machine translation have been applied to signed language, with the development of a signing avatar to translate the spoken words of post office clerks into British Sign Language (BSL) for customers (Wray, Cox, Lincoln, & Tryggvason, 2004).

Further research is needed in this area, to follow on from the work of Stone (2009) who determined that deaf people should establish the ‘translation norm’ for SLT, Wurm (forthcoming) who has taken an ethnographic approach to observing the process of translating from English into BSL, and Leneham (forthcoming) who has conducted an experimental study comparing deaf and hearing interpreters’ renditions of Auslan to spoken and written English

Another hybrid form of interpreting is educational interpreting, as it can be considered as a fusion of community and conference

interpreting; involving the interpretation of dialogic interaction, multi-party discourse, monologues, and formal, informal and consultative texts. Educational interpreting features heavily in the working lives of signed language interpreters. It is no surprise therefore, that research on educational interpreting features highly in SLI research output.

Educational interpreting research

Professional spoken language interpreters would rarely find themselves working in education as children can access their education in the spoken language of their country. Educational school notices, reports and take-home notes or mail may be translated by school children for their parents, family and friends (Kohn, 1996). These same children may interpret at parent-teacher meetings or other school events as often schools do not have the budget to pay for interpreters. Signed language interpreters may also be required to work in these school contexts to give access to deaf parents with hearing children.

However, the inimitable aspect of educational SLI is that signed language interpreters are working with deaf students throughout the educational system in the classroom. Due to changes in educational policy and provision more deaf children are integrated into local schools (often referred to as 'mainstreaming') and are provided with interpreters to access the mainstream spoken language used in the classroom (Fleetwood, 2000; Ramsey, 1996). Thus education through interpreting is one of the newer solutions for educating deaf children (E. A. Winston, 2001). As a consequence of disability discrimination legislation, more deaf adults are also now enrolling in college or university programs (Barnes, Harrington, Williams, & Atherton, 2007). Interpreters can be booked to work regularly with the same deaf students, for classes every day, every week, every term and even every year throughout their education.

Surveys have shown that signed language interpreters carry out a large proportion of their work in primary, secondary or tertiary education (Hayes, 1992; McIntire, 1990; J. Napier & Barker, 2003; Seal, 1998). Although interpreters working in educational settings require the same skills as interpreters working in other settings, they also need additional skills to account for what is expected of them in that role (Elliott & Powers, 1995).

The majority of information regarding educational interpreting is derived from surveys involving self-reports, and focuses on issues surrounding the role and responsibilities of educational interpreters, rather than the analysis of accuracy or effectiveness of educational interpreting. It is widely recognised in the SLI profession and literature that there is a lack of standards and confusion in relation to the definition of the educational interpreter's role (Benson, 2001), which can lead to conflicts between expectations and professional interpreting standards (Moores, 2001). Although conflicts between interpreting and non-interpreting requirements could be avoided with clear job descriptions (Hurwitz, 1998), a survey of sixteen coordinators of educational interpreters and analysis of job descriptions in ten school systems in the USA found inconsistencies in the defined role of educational interpreters, with unclear boundaries between the role and expectations of interpreters and other personnel in the classroom (i.e., teacher's aides, itinerant teachers of the deaf, etc.) (Fleetwood, 2000).

Educational interpreter duties often extend beyond the normatively defined role boundaries of community interpreters (Beltran-Avery, 2001), even beyond the functions of coordinating and relaying talk which are now accepted as being part of the standard community interpreter role (Wadensjö, 1998; Angelleli, 2004). For example, 222 educational interpreters in Kansas, Missouri and Nebraska were surveyed with regards to the frequency of activities performed in conjunction with assigned duties as an educational interpreter (e.g., tutoring, teaching sign language, clerical work, etc.), and specific aspects of the SLI task in school. They found that duties were

consistent in all three states, and included interpreting and non-interpreting activities, but the amount of tutoring required varied in each state (Jones, Clark, & Soltz, 1997).

One of the challenges for educational interpreters commonly recognised in the literature, is the complex requirements of interpreting with children. Children are not miniature adults, thus standards need to be developed for interpreters working with children, so they can be assessed in the same way as interpreters working with deaf adults (Schick & Williams, 2001). Interpreting with children is not unique to SLI, as spoken language interpreters work with children, however the reason it is particularly challenging in educational settings can be summed up as follows. In educational settings, interpreters are:

- working with minors and therefore legally bound by ‘duty of care’;
- regularly working with students that have varying degrees of signed language proficiency, thus presenting interpreters as language role models;
- faced with the dilemma of which interpreting technique to use and when (i.e., free or literal style) in order give access to the majority language (e.g., students may need to know specific terms in order to complete exam papers – so should interpreters introduce these terms literally through fingerspelling and mouthing, or provide a conceptual/meaningful interpretation?);
- often working with deaf students who are learning how to use an interpreter and do not understand the role of the interpreter;
- generally working with students aged between 12-18, therefore there is a potential imbalanced power dynamic;
- perceived to be responsible for assisting deaf students in their learning;
- expected to sight translate written text into signed language, as well as spoken classroom dialogue;

- often the only person in the classroom that can communicate with the deaf student;
- often asked to report things that happen in the classroom concerning deaf students to teachers or principals of the school;
- in a position to develop a close relationship with students due to the regular contact over a long period of time, and students can become unreasonably dependent on the interpreter.

More recently, Elizabeth Winston and other SLI scholars have begun to question the effectiveness of interpreting for children's education, demanding more research and discussion (Marschark et al., 2005; E. Winston, 2004b). They have acknowledged that: different educational stakeholders have different perspectives on the success of interpreting in this context (Leneham, 2004); language access may not be happening as effectively through interpreters as educators believe (Monikowski, 2004); children's access to cognitive development and learning may be hindered (Schick, 2004); it is difficult to define which interpreting technique is suitable (Davis, 2005; Stack, 2004); the authentic educational experience may not actually be interpretable (E. Winston, 2004a); deaf students may be 'left behind' as compared hearing students by only receiving their education indirectly via interpreters (Schick, Williams, & Kupermintz, 2005); deaf children may not really be able to equally participate in inclusive education via interpreters (Thoutenhoofd, 2005); the competence of educational interpreters needs to be closely evaluated (Jones, 2004; Schick & Williams, 2004); educational interpreters need to be regularly assessed and supervised (Taylor, 2004); it is essential for educational interpreters to be educated to a higher level than the students for whom they are interpreting (Burch, 2002); greater functional standards of practice are needed for educational interpreters (Metzger & Fleetwood, 2004); and educational interpreters often feel isolated and unclear

on their role and identity in the school community, experiencing communication breakdowns with teachers and uncertainty about how much control they can exercise over 'bodies and spaces' in the school environment (Langer, 2004).

Although signed language interpreters work extensively in education, the effectiveness of educational interpreting has not been proved. There is very little empirical evidence regarding how well deaf students understand interpreters. Still more research is needed to ascertain the best type of signing for primary and secondary aged deaf students (Kluwin & Stewart, 2001; Stewart & Kluwin, 1996). In an experimental study with tertiary deaf students, Marschark et al (2004) tested the deaf students' comprehension of the content of interpreted and transliterated presentations as compared with deaf students' reported preference for either interpreting technique; and as compared with hearing students' comprehension of the same lectures. They found that the interpreting technique did not make a significant difference to the level of comprehension, and that generally hearing students understood more than the deaf students.

There have also been calls for the need for in-depth study of: (i) the effect of an interpreted education and how it relates to the attainment of literacy (Patrie, 1993); and (ii) the teacher-interpreter-student triad as regular classroom teachers need to be educated and informed about communication strategies with deaf children, and strategies for effectively using interpreters in the classroom (Ramsey, 2001). Likewise interpreters need to be aware of 'teacher speak', and the discourse strategies used by teachers which are very specific to controlling the classroom environment (Schick, 2001).

LaBue (1998) analysed and compared teacher's and interpreter's utterances in a ninth-grade English class, and looked at discourse markers, their functions, and the way they were interpreted, as well as equivalence of vocabulary and meaning. The interpreters in the study did not convey the footing shifts of the teacher, and

therefore the deaf child did not receive the ‘invitation’ to participate in discussion. The deaf child’s lack of communicative competence may contribute to the mismatch, plus they cannot acquire that competence through language interactions if the interpreter is not accurately conveying the discourse markers. Russell (2008a) has found similar issues in her study of linguistic access to interpreter-mediated education in Canada.

Aside from the issues in working with children in educational settings, signed language interpreters also now face the challenge of mediating tertiary education for deaf adults at all levels. University interpreters often have to work under similar conditions to those endured in conferences (Leeson & Foley-Cave, 2007), in that they are having to deal with more formal registers of language, precise social discourse expectations, and will also invariably be working unidirectionally. The similarities between these discourse environments have been recognised in the field of signed language interpreting for over 30 years, with Sutcliffe (1975) stating that the same translation style should be adopted in conference and university settings. Much the same as conference interpreters, university interpreters may not be experts in the lecture topic, so need to receive extensive preparation beforehand.

Various studies have investigated elements of university SLI, including the potential for miscommunication between hearing and deaf people in university classrooms when an interpreter is used (Johnson, 1991); and the strategies used by lecturers, deaf students, hearing students, and interpreters to fulfil their roles in the learning process (Harrington, 2000, 2001, 2005; Leeson & Foley-Cave, 2007); plus my own work which will be discussed in section 4.0. The demands for interpreters to work in a range of educational settings, particularly higher education, has led to calls for more consistency and quality in interpreter education, training and accreditation (J. Napier, 2005).

Thus far an overview has been given of SLI research, with a focus on educational interpreting research. Now some personal hi-

ghlights will be given of my own research on educational interpreting, which concentrates on interpreting in the university setting.

University interpreting: Personal research

In a discussion of linguistic features of university interpreting, I analyzed the output of ten interpreters when interpreting an extract of a lexically dense university lecture from English into Australian Sign Language (Auslan) (J. Napier, 2002b). Lexically dense text is identified by measuring the ratio of lexical (content) and grammatical (function) words to the total number of words in a text. Written text tends to be more lexically dense than spoken text, as it relies less on the use of function words (Halliday, 1985). Ure (1971) found that a typical spoken lecture had a lexical density of 39.6%. The university lecture used in this study had a lexical density of 51%. Six of the participants were native signers, with the other four having learnt Auslan as an adult. Six had completed university education, two were studying towards undergraduate degrees at the time of the research, and two had never studied at university. All of the interpreters had some experience of university interpreting, but only five of the participants were familiar with the lecture topic. The lecture topic focused on the language acquisition of deaf children, and was presented by a university professor as part of an on-going series of lectures to a group of students training to become teachers of the deaf.

In my analyses I found that the interpreters tended to be dominant or extremely dominant in one translation style or another (i.e., free or literal), and that some of the interpreters ‘code-switched’ between styles at key points of the text. It was found that there was a relationship between the interpreters’ translation style and what words were fingerspelled in the interpretation, with a difference in the level of ‘linguistic transference’ as opposed to ‘linguistic interference’. Interpreters using a dominant free approach signed

a concept freely in Auslan, then switched to a more literal style to fingerspell certain lexical items and thus ‘transferred’ linguistic features of English into the Auslan production in order to introduce English terminology. Those interpreters dominant in a literal approach, however, only fingerspelled the subject-specific content words, and did not translate the meaning. They also fingerspelled English function words that would not ordinarily be fingerspelled in Auslan, thus the linguistic features of English were ‘interfering’ more with their interpretations.

The occurrence of linguistic transference was more prevalent in parts of the text with higher than the average lexical density. The more complex the concept, the more content (rather than function) words were used in a sentence in the form of subject-specific or academic terms, the higher the lexical density of that sentence. I surmised that the density of the text had an impact on the translation style used and the use of fingerspelling as a linguistic feature of interpretation. It was argued that those interpreters who incorporated use of fingerspelling (i.e., linguistic transference) for key lexical items of the text were using an appropriate translation style for a university lecture. It was suggested that interpreters should switch between different styles as a linguistic strategy for dealing with the context of situation, and that interpreters should be trained in both translation styles in order to effectively meet the needs of deaf consumers in different contexts, particularly in university settings.

In another study (J. Napier, 2006) I reported the findings of research that explored the influence of language contact on the interpretations of Auslan/ English interpreters, and compared it with the influence of language contact on Deaf Australians producing text¹ in Auslan. As the research focused on the analysis of only four individuals, it was presented as a preliminary case study of such language contact phenomena, with a view to a wider study at a later date. Four Auslan university discourse texts were analyzed, two were produced directly in Auslan by deaf people (one a native

signer, the other a non-native signer); and two were interpretations from English into Auslan by hearing interpreters (one was a native signer, and the other non-native). Excerpts of the first few introductory minutes from each text were analysed for language contact features of mouthing and fingerspelling. Each source text was a genuine university lecture produced in a language contact environment, where both Auslan users and English users were present.

Contrastive analysis was used to count the total number of signed lexical items, the number of fingerspelled items and the number of English mouthed words. Any patterns of words mouthed or fingerspelled (i.e., nouns, verbs, etc.) were noted, with the identification of marked (unusual) and unmarked (typical) patterns. Comparisons were then made between deaf presenters and interpreters, and native and non-native language users. The results showed that the non-native signers mouthed more English words than native signers. The two native signers tended not to mouth English patterns with verbs, but used appropriate non-manual features; however, they frequently used English mouthing for nouns.

The non-native signers produced more English mouthed words than actual lexical signs produced – mostly due to adding English lexical items, such as pronouns, determiners, auxiliary verbs and prepositions. All participants used mouthing for nominal groups, especially for terminology and for the names of people or places. Some mouthing was used by all participants for prepositions, pronouns and determiners.

The native signers' use of fingerspelling tended to be unmarked, that is, spelling lexical items that would be expected in Auslan, where as the non-native signers produced more marked fingerspelling choices where sign choices existed (e.g., 'relevant'). Also noted was that the native signers used more spatial mapping than the non-native signers, indicating less English influence on the grammatical sign order. In particular, the native signers made more use of rhetorical question strategy, which is a common 'topic-comment' structure in sign language grammars (Sutton-Spence

& Woll, 1998). The non-native signers, however, tended to follow a more 'subject-verb-object' structure, typical of English.

Although there were limitations to this study, the basic conclusions are worth considering in relation to the linguistic features used by interpreters and deaf people in university lectures, as a point of comparison for further studies. In conclusion, I stated that there was evidence of code-mixing (transference) rather than code-switching (interference), and that the distinction was not necessarily between interpreters and deaf people, but rather between native and non-native signers. Although some features were more common to native signers and others to non-native signers, essentially all the participants used features of language contact – especially mouthing. Therefore, as the Deaf community is made up of both native and non-native signers, and interpreters also comprise both, it can be suggested that interpreters do incorporate language contact phenomena into their interpretations of university lectures in the same way as deaf people when presenting university lectures.

In further studies, I have explored the production of omissions as a linguistic strategy in university lectures (J. Napier, 2003, 2004; J. Napier & Barker, 2004b). Ten Auslan interpreters were filmed interpreting a segment of a university lecture, and their interpreting omissions were noted and analyzed through a process of task review and retrospective interview. A spectrum of omission types was identified based on the metalinguistic commentary provided by the interpreters during the task review as to why certain omissions had occurred, their level of consciousness about making the omission, and whether it was a pro-active or reactive measure. These omission types were classified as: conscious strategic omissions, conscious intentional omissions, conscious unintentional omissions, conscious receptive omissions, and unconscious omissions. The research showed that interpreters produce omissions strategically as a linguistic mechanism, as well as in error, and that omission production may be influenced by a combination of familiarity with the context of situation (i.e., academic discour-

se) and familiarity with the subject matter. Commentary from the interpreters involved in the research indicated that those who had completed university qualifications felt that they were better able to linguistically cope with the interpretation of the university lecture. Although the research was conducted in a university setting, it is suggested that the findings are applicable to sign language interpreters working in any context, and that awareness of omission types can enhance interpreters' understanding of the interpreting process. It is also highlighted that interpreters' are highly aware of the linguistic decisions they make while interpreting, and that, again, this knowledge augments the success of interpretations.

Research discussed thus far has focused on linguistic strategies of interpreting in higher education in terms of the output of sign language interpreters. But what are deaf university students' perceptions of the university interpreting services that they access? What are their preferences and expectations of interpreters in higher education?

In a related study (J. Napier & Barker, 2004a), I report the details of a small panel discussion with Australian deaf university students, providing insight into deaf university students' perceptions and preferences of Auslan interpreters' translation style in the university context, and their expectations in relation to the educational backgrounds and qualifications of university interpreters.

Four deaf university students of differing linguistic backgrounds (all of whom used Auslan as their first or preferred language) were shown two extracts of interpretations of a university lecture, one in which the interpreter used a literal translation style, and the other a free translation style. The panel members were asked to discuss their perceptions of the different styles, their preferences, and reasons for those preferences. They were also asked to comment on their expectations regarding interpreters' qualifications if working in higher education.

Although the panel preferred information to be interpreted conceptually into Auslan for ease of understanding, they also wanted

access to English terms, thus endorsing the notion of interpreters switching between free and literal translation styles as a linguistic strategy to deal with the complexity of the information received and the demands of the context of situation. The notion of perceptions and preferences vis á vis actual comprehension is a potentially contentious issue, especially when considering the study of Marschark et al (2004). After conducting three experimental studies comparing deaf university students' reported communication preferences and their comprehension of lecture content through interpretation (free interpretation) or transliteration (literal interpretation), Marschark et al found that the deaf students were equally competent in comprehending the lectures through both translation styles, regardless of reported sign language skills and preferences. However, the deaf students gained less from lectures than their hearing counterparts. This highlights the need for further research on interpreting in higher education in order to establish the most appropriate and accessible provision for deaf students. The Australian deaf student panel advocated for interpreters to have a university qualification in general, but especially if they work in a university context. This has been a recommendation of many interpreter researchers and educators.

Suggestions for further research

A paper of this sort would not be complete without some thought given to key research questions and directions for future investigation. There is an obvious need for further research in the SLI field, but there is a greater need for completed research to be disseminated as widely as possible. We need to understand more about what makes communication effective, and therefore what makes interpreter-mediated communication achievable. The only way to achieve this level of understanding is through further collaboration among interpreting researchers, educators and practitioners.

The specific research suggestions given here, which were originally suggested in a former publication (Napier, 2005) focus on the potential to understand more about linguistic features and strategies used by signed language interpreters, so as to improve both access to education by deaf individuals and more efficient and effective interpreter education, and could be carried out by researchers, educators or practitioners.

- Language contact – Film various Deaf people presenting a lecture in Auslan (or other natural signed language) on the same topic, then film a hearing person presenting on the same topic and ask several interpreters to interpret from English into Auslan. All presentations should occur in front of a mixed audience of Deaf and hearing people. This process would provide more reliable data to compare the linguistic features used by Deaf people and interpreters in university settings. In addition, Deaf people and interpreters could be filmed in more informal situations and the results compared with findings of university lecture language contact features – do the patterns identified in university lectures only occur in formal settings?
- Interpreting omissions – Replicate Napier’s study (2004) of interpreting omissions in other interpreting contexts. This would create a picture of the different discourse factors that impact on the use of conscious strategic omissions and the production of erroneous omissions, for example, in a medical appointment, at a job interview, in a conference setting, or in a meeting situation. The research could then be taken one step further, contrasting interpreters working in identical situations that had received more preparation.
- Educational interpreting – Many discussions of interpreters and education rely on an assumption that interpreters who do not have post-secondary qualifications will struggle with the language and terminology used in such educational settings.

It is also consistently stated that interpreters familiar with topics of lectures will be in a better position to understand and interpret the meaning. A proposed study could test interpreters' comprehension of lecture content, before assessing the effectiveness of their interpretations of the same lecture content. If the data were collected from a range of interpreters with differing qualifications, it would be possible to identify any patterns of correlation between educational qualifications held, area of expertise, and the effectiveness of interpretations.

- **Comprehensibility** – The majority of SLI research focuses on interpreters' output or on descriptions of consumer preference. Only a few empirical studies of interpreting comprehension have been conducted. A new tool for the objective assessment of SLI comprehensibility is much needed.

Conclusion

This article has provided an overview of SLI research, with a focus on one of the key areas where signed language interpreters work: in education. In addition to detailing the research and debates surrounding educational interpreting, this paper has explored the linguistic features and strategies of interpreting in university settings by outlining some highlights from my personal published research.

The personal research studies discussed focused on the linguistic features used by Auslan/English interpreters when interpreting dense information, features of language contact used by interpreters and Deaf people in university settings; and linguistic strategies of Auslan interpreters when interpreting for a university lecture and the use of translation style and omissions as strategies within the university discourse environment; Deaf students expectations of university interpreting and interpreting strategy; and the edu-

cational backgrounds of interpreters in relation to their ability to interpret in higher education.

Suggestions for further research on SLI have been outlined, providing guidance for a potential future research agenda for the field; as there are clearly “a number of fascinating empty [research] spaces waiting to be filled” (Grbic, 2007, p.45).

Acknowledgments

Some of the personal research studies reported here were only made possible with funding from the following sources: Australian Federal Government Department of Education, Training and Youth Affairs Commonwealth Scholarship (1998); Victorian Services for Deaf Children Deafness Research Fund (1999), Macquarie University Postgraduate Research Fund (2000), the Macquarie University Generic Skills Integration Grants Scheme (2003); in-kind support from Renwick College (affiliated with the University of Newcastle); and a Macquarie University Postdoctoral Fellowship (2004-2006).

Note

1. Here the term ‘text’ is used to refer to the production of Auslan as the equivalent of a piece of spoken or written text.

Bibliography

BANNA, K. (2004). Auslan interpreting: What can we learn from translation theory? *Deaf Worlds*, 20(2), 100-119.

BARNES, L., Harrington, F., Williams, L., & Atherton, M. (2007). *Deaf Students in Higher Education: Current Research & Practice*. Coleford: Douglas McLean Publishing.

BARNETT, S. (2002). Cross-cultural communication with patients who use American Sign Language. *Family Medicine*, 34(5), 376-382.

BÉLANGER, D. (2004). Interactional patterns in dialogue interpreting. *Journal of Interpretation*, 1 - 18.

BELTRAN-AVERY, M. (2001). *The role of the health care interpreter: An evolving dialogue*: National Council on Interpreting in Health Care.

BENSON, J. T. (2001). The role of educational interpreters. *Wisconsin Department of Public Instruction Bulletin No. 99.04* Retrieved 28 September 2005, from <http://dpi.wi.gov/sped/bul99-04.html>.

BERGSON, M., & Sperlinger, D. (2003). "I still don't know what I should have done": Reflections on personal/ professional dilemmas in sign language interpreting. *Deaf Worlds*, 19(3), 6-23.

BIDOLI, C. J. K. (2004). Intercultural Features of English-to-Italian Sign Language Conference Interpretation: A Preliminary Study for Multimodal Corpus Analysis. *Textus*, XVII, 127-142.

BONTEMPO, K., & Napier, J. (2007). Mind the gap! A skills analysis of sign language interpreters. *The Sign Language Translator & Interpreter*, 1(2), 275-299.

BONTEMPO, K., & Napier, J. (2009). *Emotional stability as a predictor for interpreter competence: A consideration in determining aptitude for interpreting*. Paper presented at the Aptitude for Interpreting, Antwerp, Belgium.

BRENNAN, M. (1999). Signs of injustice. *The Translator*, 5(2), 221 - 246.

BRENNAN, M., & Brown, R. (1997). *Equality before the law: Deaf people's access to justice*. Durham: Deaf Studies Research Unit, University of Durham.

BRUNSON, J., & Lawrence, P. (2002). Impact of Sign Language Interpreter and Therapist Moods on Deaf Recipient Mood. *Professional Psychology: Research and Practice*, 33(6), 576-580.

BURCH, D. (2002). Essential education for sign language interpreters in pre-college educational settings. *Journal of Interpretation*, 125-149.

COKELY, D. (1992a). Effects of lag time on interpreter errors. In D. Cokely (Ed.), *Sign Language Interpreters and Interpreting* (pp. 39-69). Burtonsville, MD: Linstok Press.

Cokely, D. (1992b). *Interpretation: A Sociolinguistic Model*. Burtonsville, MD: Linstok Press.

COKELY, D. (Ed.). (1992c). *Sign Language Interpreters and Interpreting*. Burtonsville, MD: Linstok Press.

COKELY, D., & Hawkins, J. (2003). Interpreting in teams: A pilot study on requesting and offering support. *Journal of Interpretation*, 49-94.

CONLON, C., & Napier, J. (2004). Developing Auslan educational resources: A process of effective translation of children's books. *Deaf Worlds*, 20(2), 141-161.

CORNES, A., Rohan, M., Napier, J., & Rey, J. (2006). Reading The Signs: Impact of signed vs. written questionnaires on the prevalence of psychopathology among deaf adolescents. *Australia & New Zealand Journal of Psychiatry*, 40(8), 665-673.

- CRAGG, S. (2002). Peeling back the skins of an onion. *Deaf Worlds*, 18(2), 56-61.
- DAVIS, J. (2003). Cross-linguistic strategies used by interpreters. *Journal of Interpretation*, 95-128.
- DAVIS, J. (2005). Code choices and consequences: Implications for educational interpreting. In M. Marschark, R. Peterson & E. A. Winston (Eds.), *Interpreting and Interpreter Education: Directions for Research and Practice* (pp. 112-141). New York: Oxford University Press.
- DEAN, R., & POLLARD, R. Q. (2001). The application of demand-control theory to sign language interpreting: Implications for stress and interpreter training. *Journal of Deaf Studies and Deaf Education*, 6(1), 1-14.
- DEAN, R., & POLLARD, R. Q. (2005). Consumers and service effectiveness in interpreting work: A practice profession perspective. In M. Marschark, R. Peterson & E. A. Winston (Eds.), *Interpreting and interpreting education: Directions for research and practice* (pp. 259-282). New York: Oxford University Press.
- DEAN, R., & POLLARD, R. Q. (2006). *From best practice to best practice process: Shifting ethical thinking and teaching*. Paper presented at the A new chapter in interpreter education: Accreditation, research and technology, San Diego, USA.
- DEAN, R., & POLLARD, R. Q. (2009). National survey identifies ways to improve DC-S infusion. *CIT News*, 29.
- ELLIOTT, R. N., & POWERS, A. R. (1995). Preparing interpreters to serve in educational settings. *ACEHI Journal*, 21, 132-140.
- FLEETWOOD, E. (2000). Educational policy and signed language interpretation. In M. METZGER (Ed.), *Bilingualism and Identity in Deaf Communities* (pp. 161-186). WASHINGTON, DC: Gallaudet University Press.
- GOMEZ, M. L., MOLINA, T. B., BENITEZ, P. P., & SANTIAGO de Torres, J. (2007). Predicting proficiency in signed language interpreting: A preliminary study. *Interpreting*, 9(1), 71-93.

GRBIC, N. (2007). Where Do We Come From? What Are We? Where Are We Going? A Bibliometrical Analysis of Writings and Research on Sign Language Interpreting. *The Sign Language Translator & Interpreter*, 1(1), 15-51.

GRESSWELL, E. (2001). How applicable to BSL are contemporary approaches to translation? *Deaf Worlds*, 17(2), 50-62.

HAAS, C. (1999). Sign language interpreters: Simultaneous interpreting and memory. *Journal of Interpretation*, 21-38.

HALLIDAY, M. A. K. (1985). *Spoken and written language*. Burwood, VIC: Deakin University Press.

HARRINGTON, F. (2000). Sign language interpreters and access for Deaf students to university curricula: The ideal and the reality. In R. Roberts, S. A. Carr, D. Abraham & A. Dufour (Eds.), *The critical link 2: Interpreters in the community*. Vancouver: John Benjamins.

HARRINGTON, F. (2001). Deaf students and the interpreted classroom: The effect of translation on education? In F. J. Harrington & G. H. Turner (Eds.), *Interpreting interpreting: Studies and reflections on sign language interpreting* (pp. 74-88). Coleford, UK: Douglas McLean.

HARRINGTON, F. (2005). A study of the complex nature of interpreting with deaf students in higher education. In M. Metzger & E. Fleetwood (Eds.), *Attitudes, innuendo and regulators: Challenges in interpretation* (pp. 162-187). Washington, DC: Gallaudet University Press.

HARRINGTON, F., & TURNER, G. H. (Eds.). (2001). *Interpreting Interpreting: Studies and Reflections on Sign Language Interpreting*. Coleford, UK: Douglas McLean.

HARVEY, M. (2003). Shielding yourself from the perils of empathy: The case of sign language interpreters. *Journal of Deaf Studies and Deaf Education*, 8(2), 207-213.

- HAYES, L. (1992). Educational interpreters for deaf students: Their responsibilities, problems and concerns. *Journal of Interpretation*, 5(1), 5-24.
- HURWITZ, A. (1998). Current issues: Interpreters in the educational setting. In A. Weisel (Ed.), *Insights into deaf education: Current theory and practice* (pp. 237-253). Tel Aviv: Academic Press of the School of Education, Tel Aviv University.
- IBRAHIM-BELL, Z. (2008). Legal Interpreting and the Deaf Community in Malaysia. In D. Russell & S. Hale (Eds.), *Interpreting in legal settings*. Washington, DC: Gallaudet University Press.
- INGRAM, R. (1985). Simultaneous interpretation of sign languages: Semiotic and psycholinguistic perspectives. *Multilingua*, 4(2), 91-102.
- ISHAM, W., & LANE, H. (1993). Simultaneous interpretation and the recall of source language sentences. *Language and Cognitive Processes*, 8(3), 241-264.
- ISHAM, W., & LANE, H. (1994). A common conceptual code in bilinguals: Evidence from simultaneous interpretation. *Sign Language Studies*, 23, 291-317.
- JANZEN, T. (Ed.). (2005). *Topics in signed language interpreting*. Amsterdam: John Benjamins.
- JOHNSON, K. (1991). Miscommunication in interpreted classroom interaction. *Sign Language Studies*, 70, 1-34.
- JONES, B. E. (2004). Competencies of K-12 educational interpreters: What we need versus what we have. In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 113-131). Washington, DC: Gallaudet University Press.
- JONES, B. E., CLARK, G., & SOLTZ, D. (1997). Characteristics and practices of sign language interpreters in inclusive education programs. *Exceptional Children*, 63(2), 257-268.

KLUWIN, T., & STEWART, D. (2001). Interpreting in schools: A look at research. *Odyssey: Directions in Deaf Education*, 2(2), 15-17.

KOHN, F. (1996). *Migrant Children Interpreting for Parents - an ethnographic study*. Paper presented at the Proceedings XIVth World Congress of the Fédération Internationale des Traducteurs.

LA BUE, M. A. (1998). *Interpreted Education: A study of deaf students' access to the content and form of literacy instruction in a mainstreamed high school English class*. Unpublished doctoral, University of Harvard, Cambridge, MA.

LANGER, E. C. (2004). Perspectives on educational interpreting from educational anthropology and an internet discussion group. In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 91-112). Washington, DC: Gallaudet University Press.

LEESON, L. (2005). Vying with variation: Interpreting language contact, gender variation and generational difference. In T. Janzen (Ed.), *Topics in Signed Language Interpreting* (pp. 251-292). Amsterdam: John Benjamins.

LEESON, L. (2008). Quantum Leap: Leveraging the Signs of Ireland Digital Corpus in Irish Sign Language/English Interpreter Training. *The Sign Language Translator & Interpreter*, 2(2), 149-176.

LEESON, L., & Foley-Cave, S. (2007). Deep and meaningful conversation: Challenging interpreter impartiality in the semantics and pragmatics classroom. In M. Metzger & E. Fleetwood (Eds.), *Translation, Sociolinguistic, and Consumer Issues in Interpreting* (pp. 45-70). Washington, DC: Gallaudet University Press.

LENEHAM, M. (2004). *Educational interpreting: Recognising stakeholders' perspectives*. Paper presented at the Deaf View 2, Auckland, New Zealand.

LENEHAM, M. (2005). The sign language interpreter as translator: Challenging traditional definitions of translation and interpreting. *Deaf Worlds*, 21(1), 79-101.

LENEHAM, M. (2007). Exploring power and ethnocentrism in sign language translation. *Babel: Journal of the AFMLTA*, 41(3), 4-12.

LENEHAM, M. (forthcoming). *Analysing approaches to interpreting and translating texts from Auslan to English*. Unpublished Doctoral dissertation, Macquarie University, Sydney, Australia.

MARSCHARK, M., PETERSON, R., & WINSTON, E. A. (Eds.). (2005). *Interpreting and interpreting education: Directions for research and practice*. New York: Oxford University Press.

MARSCHARK, M., SAPERE, P., CONVERTINO, C., SEEWAGEN, R., & MALTZEN, H. (2004). Comprehension of sign language interpreting: Deciphering a complex task situation. *Sign Language Studies*, 4(4), 345-368.

MATHERS, C. (2006). *Sign language interpreters in court: Understanding best practices*. Bloomington, IN: AuthorHouse.

MCDERMID, C. (2009). Social Construction of American Sign Language—English Interpreters. *Journal of Deaf Studies and Deaf Education*, 14(1), 105-130.

MCINTIRE, M. (1990). The work and education of sign language interpreters. In S. Prillwitz & T. Vollhaber (Eds.), *Sign language research and application* (pp. 263-273). Hamburg: Signum Press.

METZGER, M. (1999). *Sign language interpreting: Deconstructing the myth of neutrality*. Washington, D.C: Gallaudet University Press.

METZGER, M., COLLINS, S., DIVELY, V., & SHAW, R. (Eds.). (2003). *From Topic Boundaries to Omission: Research on interpretation*. Washington DC: Gallaudet University Press.

METZGER, M., & FLEETWOOD, E. (2004). Educational interpreting: Developing standards of practice. In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 171-177). Washington, DC: Gallaudet University Press.

METZGER, M., & FLEETWOOD, E. (Eds.). (2005). *Attitudes, innuendo, and regulators: Challenges of interpretation*. Washington, DC: Gallaudet University Press.

METZGER, M., & FLEETWOOD, E. (Eds.). (2007). *Translation, Sociolinguistic, and Consumer Issues in Interpreting*. Washington, DC: Gallaudet University Press.

MONIKOWSKI, C. (2004). Language myths in interpreted education: First language, second language, what language? In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 48-60). Washington, DC: Gallaudet University Press.

MONTOYA, L. A., EGNATOVITCH, R., ECKHARDT, E., GOLDSTEIN, M., GOLDSTEIN, R. A., & STEINBERG, A. (2004). Translation challenges and strategies: The ASL translation of a computer-based psychiatric diagnostic interview. *Sign Language Studies*, 314-344.

MOORES, D. (2001). *Educating the deaf: Psychology, principles, and practices* (5th ed ed. Vol. Boston). Boston: Houghton Mifflin.

NAPIER, J. (2002a). *Sign language interpreting: Linguistic coping strategies*. Coleford, UK: Douglas McLean.

NAPIER, J. (2002b). University interpreting: Linguistic issues for consideration. *Journal of Deaf Studies and Deaf Education*, 7(4), 281-301.

NAPIER, J. (2003). A sociolinguistic analysis of the occurrence and types of omissions produced by Australian Sign Language/ English interpreters. In M. Metzger, S. Collins, V. Dively & R. Shaw (Eds.), *From Topic Boundaries to Omission: Research on interpretation* (pp. 99-153). Washington DC: Gallaudet University Press.

NAPIER, J. (2004). Interpreting omissions: A new perspective. *Interpreting: International Journal of Research and Practice in Interpreting*, 6(2).

NAPIER, J. (2005). Linguistic features and strategies of interpreting: From research to education to practice. In M. Marschark, R. Peterson & E. Winston (Eds.), *Sign language interpreting and interpreter education: Directions for Research and Practice* (pp. 84-111). New York: Oxford University Press.

NAPIER, J. (2006). Comparing language contact phenomena between Auslan/English interpreters and deaf Australians: A preliminary study. In C. Lucas (Ed.), *From the Great Plains to Australia: Multilingualism and Sign Languages* (pp. 39-78). Washington DC: Gallaudet University Press.

NAPIER, J. (2007). Cooperation in interpreter-mediated monologic talk. *Discourse and Communication*, 1(4), 407-432.

NAPIER, J. (in press). Signed language interpreting. In K. Windle & K. Malmjaer (Eds.), *Oxford Handbook of Translation Studies*. New York: Oxford University Press.

NAPIER, J., & BARKER, R. (2003). A demographic survey of Australian Sign Language interpreters. *Australian Journal of Education of the Deaf*, 9, 19-32.

NAPIER, J., & BARKER, R. (2004a). Accessing university education: Perceptions, preferences and expectations for interpreting by deaf students. *Journal of Deaf Studies and Deaf Education*, 9(2), 228-238.

NAPIER, J., & BARKER, R. (2004b). Sign language interpreting: The relationship between metalinguistic awareness and the production of interpreting omissions. *Sign Language Studies*, 4(4), 369-393.

NAPIER, J., CARMICHAEL, A., & WILTSHIRE, A. (2008). Look-pause-nod: A linguistic case study of a deaf professional and interpreters working together. In P. Hauser, K. Finch & A. Hauser (Eds.), *Deaf professionals and designated interpreters: A new paradigm* (pp. 22-42). Washington, DC: Gallaudet University Press.

NAPIER, J., ROHAN, M., & SLATYER, H. (2007). Perceptions of bilingual competence compared to preferred language direction in the case of Auslan/English interpreters. *Journal of Applied Linguistics*, 2(2), 185-218.

NAPIER, J., & SPENCER, D. (2008). Guilty or not guilty? An investigation of deaf jurors' access to court proceedings via sign language interpreting. In D. Russell & S. Hale (Eds.), *Interpreting in legal settings*. Washington, DC: Gallaudet University Press.

NICODEMUS, B. (2009). *Prosodic Markers and Utterance Boundaries in American Sign Language Interpretation*. Washington, DC: Gallaudet University Press.

PADDEN, C. (2004). Translating Veditz. *Sign Language Studies*, 4(3), 244-260.

PATRIE, C. (1993). *A confluence of diverse relationships: Interpreter education and educational interpreting*. Paper presented at the A confluence of diverse relationships: Proceedings of the 13th National Convention of the Registry of Interpreters for the Deaf.

RAMSEY, C. (1996). *Deaf children in public schools*. Washington, DC: Gallaudet University Press.

RAMSEY, C. (2001). Beneath the surface: Theoretical frameworks shed light on educational interpreting. *Odyssey: Directions in Deaf Education*, 2(2), 19-24.

REED, M., TURNER, G. H., & TAYLOR, C. (2001). Working paper on access to justice for Deaf people. In F. J. Harrington & G. H. Turner (Eds.), *Interpreting interpreting: Studies and reflections on sign language interpreting* (pp. 168-216). Coleford, UK: Douglas McLean.

ROY, C. (2000). *Interpreting as a discourse process*. Oxford: Oxford University Press.

RUSSELL, D. (2002). *Interpreting in legal contexts: Consecutive and simultaneous interpretation*. Burtonsville, MD: Sign Media.

RUSSELL, D. (2008a). *Educational interpreting: Multiple perspectives on our work- From Deaf students, teachers, administrators and parents*. Paper presented at the Supporting Deaf People Online Conference.

RUSSELL, D. (2008b). *Interpreter Preparation Conversations: Multiple Perspectives*. In D. RUSSELL & S. HALE (Eds.), *Interpreting in legal settings*. Washington, DC: Gallaudet University Press.

RUSSELL, D., & HALE, S. (2008). *Interpreting in Legal Settings*. In. Washington, DC: Gallaudet University Press.

SANHEIM, L. (2003). Turn exchange in an interpreted medical encounter. In M. Metzger, S. Collins, V. Dively & R. Shaw (Eds.), *From topic boundaries to omission: New research on interpretation* (pp. 27 - 54). Washington, DC: Gallaudet University Press.

SCHICK, B. (2001). Interpreting for children: How it's different. *Odyssey: Directions in Deaf Education*, 2(2), 8-11.

SCHICK, B. (2004). How might learning through an educational interpreter influence cognitive development? In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 73-88). Washington, DC: Gallaudet University Press.

SCHICK, B., & WILLIAMS, K. (2001). Evaluating interpreters who work with children. *Odyssey: Directions in Deaf Education*, 2(2), 12-14.

SCHICK, B., & WILLIAMS, K. (2004). The educational interpreter performance assessment: Current structure and practices. In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 186-205). Washington, DC: Gallaudet University Press.

SCHICK, B., WILLIAMS, K., & KUPERMINTZ, H. (2005). Look who's being left behind: Educational interpreters and access to education for deaf and hard-of-hearing students. *Journal of Deaf Studies & Deaf Education*, 11(1), 3-20.

SEAL, B. C. (1998). *Best practices in educational interpreting*. Needham Heights, MA: Allyn & Bacon.

SHAW, S. (2009). *Cognitive and motivational contributors to aptitude: A study of spoken and signed language interpreting students*. Paper presented at the Aptitude for Interpreting, Antwerp, Belgium.

SHAW, S., GRBIC, N., & FRANKLIN, K. (2004). Applying language skills to interpretation. *Interpreting*, 6(1), 69-100.

SHERIDAN, S. (2009). Translating Idiomatic Expressions from English to Irish Sign Language (ISL): Theory and Practice. *The Sign Language Translator and Interpreter*, 3(1), 69-84.

SMEIJERS, A., & PFAU, R. (2009). On the Communication between General Practitioners and Their Deaf Patients. *The Sign Language Translator and Interpreter*, 3(1), 1-14.

STACK, K. (2004). Language accessibility in a transliterated education: English signing systems. In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 61-72). Washington, DC: Gallaudet University Press.

STAUFFER, L., & SHAW, S. (2006). Personality characteristics for success in interpreting courses: Perceptions of spoken and sign language interpretation students. *Journal of Interpretation*, 11-24.

STEINER, B. (1998). Signs from the void: The comprehension and production of sign language on television. *Interpreting*, 3(2), 99-146.

STEWART, D. A., & KLUWIN, T. N. (1996). The gap between guidelines, practice, and knowledge in interpreting services for deaf students. *Journal of Deaf Studies and Deaf Education*, 1(1), 29-39.

STONE, C. (2009a). *Sign language interpreter language and interpreting aptitude*. Paper presented at the Aptitude for Interpreting, Antwerp, Belgium.

STONE, C. (2009b). *Toward a Deaf Translation Norm*. Washington, DC: Gallaudet University Press.

SUTCLIFFE, T. H. (1975). *Interpreting at higher levels of thought*. Paper presented at the Hands across the sea: Proceedings of the 1st International Conference on Interpreting.

SUTTON-SPENCE, R., & WOLL, B. (1998). *The linguistics of British Sign Language*. Cambridge: Cambridge University Press.

TATE, G., COLLINS, J., & TYMMS, P. (2003). Assessments using BSL: Issues of translation for performance indicators in primary schools. *Deaf Worlds*, 19(1), 6-35.

TATE, G., & TURNER, G. H. (2001). The code and the culture: Sign language interpreting - in search of the new breed's ethics. In F. J. Harrington & G. H. Turner (Eds.), *Interpreting interpreting: Studies and reflections on sign language interpreting* (pp. 53-66). Coleford, UK: Douglas McLean.

TAYLOR, M. (1993). *Interpretation skills: English to ASL*. Edmonton, Alberta: Interpreting Consolidated.

TAYLOR, M. (2004). Assessment and supervision of educational interpreters: What job? Whose job? Is this process necessary? In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 178-185). Washington, DC: Gallaudet University Press.

THOUTENHOOFD, E. (2005). The sign language interpreter in inclusive education: Power of authority and limits of objectivism. *The Translator*, 11(2), 237-258.

TURNER, G. H. (1995). The bilingual, bimodal courtroom: A first glance. *Journal of Interpretation*, 7(1), 3-34.

TURNER, G. H., & BROWN, R. (2001). Interaction and the role of the interpreter in court. In F. J. Harrington & G. H. Turner (Eds.), *Interpreting interpreting: Studies and reflections on sign language interpreting* (pp. 152-167). Coleford, UK: Douglas McLean.

TURNER, G. H., & POLLITT, K. (2002). Community interpreting meets literary translation: English-BSL interpreting in the theatre. *The Translator*, 8(1), 25-48.

URE, J. (1971). *Lexical density and register differentiation*. Paper presented at the Applications of linguistics: Selected papers of the 2nd International Congress of Applied Linguistics.

WINSTON, E. (2004a). Interpretability and accessibility of mainstream classrooms. In E. A. Winston (Ed.), *Educational interpreting: How it can succeed* (pp. 132-168). Washington, DC: Gallaudet University Press.

WINSTON, E. (Ed.). (2004b). *Educational interpreting: How it can succeed*. Washington, DC: Gallaudet University Press.

WINSTON, E., & MONIKOWSKI, C. (2003). Marking topic boundaries in signed interpretation and transliteration. In M. Metzger, S. Collins, V. Dively & R. Shaw (Eds.), *From topic boundaries to omission: New research on interpretation* (pp. 187-227). Washington, DC: Gallaudet University Press.

WINSTON, E. A. (2001). Visual inaccessibility: The elephant (blocking the view) in interpreted education. *Odyssey: Directions in Deaf Education*, 2(2), 5-7.

WRAY, A., COX, S., LINCOLN, M., & TRYGGVASON, J. (2004). A formulaic approach to translation at the post office: reading the signs. *Language & Communication*, 24, 59-75.

WURM, S. (forthcoming). *An ethnographic case study of an English to BSL translation*. Heriot-Watt, Edinburgh.

