Sociolinguistic Perspectives on the Education of Deaf Children in Inclusion Placements

Laurel Standley
University of New Mexico

1. Introduction

Most deaf children in the U.S. today (roughly 80 percent) are placed in a mainstream public-school environment with hearing peers and teachers (Salend, 2001; Schick, Williams, & Bolster, 1999). As deaf children are increasingly being educated in mainstream public school programs, there is a need to assess fully the factors influencing their first and second language acquisition and literacy development as these factors affect a deaf student's educational success. Many challenges confront educators of deaf students, including diversity in the student population, critical period effects on language acquisition, the nature of linguistic exposure, sociolinguistic aspects of language policy/planning in the classroom, and the effect of the interpreter in the classroom. The purpose of this paper is to describe the extensive linguistic, cultural, and educational placement diversity of deaf students, to identify the resulting educational and linguistic constraints of deaf children in inclusion settings using signed language interpreters, and to review current research on outcomes of language acquisition training. Alternative models for improving linguistic and educational outcomes for these students are proposed.

2. Diversity of deaf students

Statistical trends in the U.S. suggest that nearly 90% of deaf children are born to hearing families (Moores, 1978; Salend, 2001). Due to the sheer numbers of deaf children who can be included in this category, the unique and diverse characteristics of this population must be addressed. Deaf children of hearing families (DofH) are at greater risk for delay in the identification of hearing loss and thus a delay in the implementation of intervention strategies to combat the effects of hearing loss.

For the deaf child in a mainstream placement, there will typically be a minimum of two languages or varieties of a language used for communication, instruction, and assessment/evaluation. Spoken/written English is the primary language of instruction in most educational settings in the U.S. Deaf children may be exposed to a number of signed languages or signed systems including but not limited to: American Sign Language (ASL), Manually Coded English (MCE), or a contact variety of these languages (Salend, 2001). The specifying of which language is classified as the first language is always difficult. The child's home language may or may not be the first language. In the case of hearing parents, spoken English may be the home language for the deaf child, though it may not be accessible to them as a first language.

The author notes that deaf children come from culturally diverse families and the home language may also be another minority language that the child is trying to acquire orally. As with hearing students from linguistically diverse families, it may also be the case that the family does not proficiently employ or employ at all the language being used in the educational setting (Baker, 1996). Thus, in order to determine a student's first language, an individual analysis of each particular child's circumstances must be conducted. Once the first language has been identified, educators can incorporate language-learning strategies to fully develop these language concepts in order to facilitate literacy development in English.

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3. Linguistic disadvantages of deafness

Due to late onset of language exposure, it is possible for DofH to be significantly delayed in language acquisition. When children are deprived of language, the repercussions are profound and pervasive. The incidence of DofH being deprived of language due to a severe delay in language acquisition is quite high (Mayberry, 1993; Newport, 1990; Emmorey, Bellugi, Friedrichi, & Horn, 1995). Children who are born deaf are not by necessity delayed in the acquisition of language (Drasgow, 1988; Petitto & Marentette, 1991). Language delays in deaf children are due to a series of disruptions in their language acquisition process. Disruptions may be due to inadequate linguistic input or due to delays in linguistic exposure (Petitto & Holowka, 2002; Ross & Newport, 1996). The choices hearing parents of deaf children must make regarding language modality and use impact almost every aspect of cognitive functioning and have life-long effects.

Since DofH are commonly delayed in exposure to their first language, all educational processes that are mediated by language will be negatively impacted. An incomplete linguistic system may be one reason that educators of deaf children learning English as a second language have been unsuccessful in improving their students' literacy rates (Chamberlain and Mayberry, 2000; Moores, 1978).

A further problem unique to deaf children is the reality that most are exposed to non-native linguistic input. Ninety percent of deaf children are born to hearing families (Moores, 1978). These families are primarily using a spoken oral language such as Spanish or English as the home language. Hearing parents who choose to have their Deaf children learn ASL or a signed form of English must themselves begin the process of learning a signed language. Parents and families are thus attempting to raise a deaf child in a linguistic environment that for most families is not native to any of the participants. Research has shown that in situations where parents are providing random language patterns and inconsistent linguistic input, children are not able to utilize completely linguistic forms in the correct manner (Curtiss, 1977; Ross and Newport, 1996; Singleton and Newport, 1992). Many deaf children may be exposed to random patterns and inconsistent input from interpreters in educational settings, in addition to irregular forms from parents in the home.

Studies in the field of language acquisition have established the need for deaf children to be exposed to a complete linguistic system parallel to their hearing peers (Drasgow, 1988; Mayberry, 1993; Mayberry & Fischer, 1989; Petitto, 1997). Thus, early identification of hearing loss and early intervention plans for parents and caregivers must be comprehensive in nature and aggressively implemented. Parents should be made aware of the research surrounding the linguistic choices for deaf children. Families should also be involved in effective language instruction in order to provide their deaf children with as proficient a level of linguistic input as possible. Parents who are second language learners of ASL should themselves be exposed to native proficiency ASL either from Deaf or exceptionally qualified hearing language models.

4. Current educational outcomes

Research has shown that educational outcomes for deaf students have not been parallel to those of their hearing peers (see Braden, 1994; Moores, 1978 & 2001; Paul, 1998; Schirmer, 2000). Foremost is the fact that literacy rates among deaf children are well below desired levels with educational studies showing that the reading comprehension abilities of deaf children are significantly lower than those of their hearing peers (Chamberlain & Mayberry, 2000; Moores, 1978; Strong & Prinz, 2000).

By far the most significant aspect of educational implication extracted from the current research is the issue of delay effects on the educational outcomes of deaf children. Morford (2002) suggests that language deprivation in deaf children affects not only their processing of language but also their linguistic comprehension and production. She asserts that the issue of language exposure delay may be underestimated and that it is assumed that learners of language will be able to perceive input at the time of exposure. Morford (2002) emphasizes the fact that deaf children who are language delayed and are inept in language processing may suffer from social isolation due to their lack of linguistic proficiency. If these statements are, in fact, true, then educators and interpreters of the deaf should provide deaf students with a complete linguistic system at the earliest possible opportunity.

Besides having the acquisition of communicative competence in English as the primary goal (Schick and Moeller, 1992), many educational systems also strive to foster literacy development in written English. The factors that affect the language development of deaf students are simultaneously affecting their literacy acquisition and thus their educational outcomes. In the past, inaccessible language programs, such as oral approaches to language acquisition, may have hindered the process of literacy development since deaf students were unable to acquire the complete structure of language via these methods. A great majority of deaf children are delayed in their understanding of the critical relationship between language (both written and signed) and meaning in the world around them (Nover, Christensen, & Cheng, 1998). The process by which children come to think about language, or do not think about language due to delay, changes the structure of the language that they use.

The social interaction between deaf students and their educators has a profound effect on academic success (Kuntze, 1998). Deaf students who have comprehensive access to academic content through a complete linguistic system are able to engage in meaningful communication with peers and instructors allowing them to mediate the process of conceptual development with others, rather than doing so alone. Bloome and Green (1992) suggest that students who are able to mediate formal-instruction via collaborative dialogue with peers and educators are actively facilitating the literacy process. Thus, students who are unable to gain access to such strategies are at a disadvantage.

5. Languages in the classroom

Literature researching the language and literacy development of bilingual children in spoken-language programs has long supported using the native language to facilitate second-language acquisition and literacy (Cummins, 1991). Traditionally, there has been little quantitative research evaluating the use of ASL as a native language to promote English acquisition within a bilingual education context (Strong & Prinz, 2000). Recent studies analyzing the link between ASL proficiency and English-literacy acquisition lend evidence to support the development of curriculum methodologies that emphasize a bilingual approach to deaf education.

One such study, conducted by Strong and Prinz (2000), analyzed the English proficiency of a group of 155 deaf students between the ages of eight and fifteen, who used ASL as their primary means of communication. The students were divided into two subject groups based on maternal hearing status and language use. Both subject groups were assessed for their expressive and receptive knowledge of ASL syntax and morphology, as well as their expressive and receptive knowledge of written English. Results showed a strong correlation between ASL proficiency and English literacy. There was a linear relationship between ASL fluency and demonstrated written English proficiency. When maternal hearing status was used as the independent variable, results showed that "students with deaf mothers significantly outperformed students with hearing mothers in both ASL and English literacy" (Strong and Prinz, 2000: 136). Thus, the authors were able to demonstrate a strong relationship between ASL skill and English literacy.

Hoffmeister (2000) assessed 78 deaf students for their receptive knowledge of ASL and their proficiency in English literacy. Initially, ASL skill was examined through the subjects' understanding of "synonyms, antonyms, and plural-quantifiers" (Hoffmeister, 2000: 152). Results demonstrated that those children with deaf parents were more knowledgeable about ASL structure than those children with hearing parents. Though it was confirmed that while deaf children with hearing parents did have knowledge of ASL structure, their abilities were not as high as those children receiving ASL first-language input from their families.

In the second part of the study, Hoffmeister (2000) analyzed the reading comprehension and the receptive Manually Coded English (MCE) comprehension of a group of 50 subjects from the previous study. Subjects were again divided into two groups, this time according to the language of primary exposure, either ASL or another sign system. Primary exposure was based on the language most commonly used in both the subjects' home and their academic environments. The results of the comprehension tests were compared to the results of the ASL knowledge test and results showed that deaf children with deaf parents outperformed peers with hearing parents in both ASL and MCE knowledge. These results would tend to dispute any argument that ASL acquisition inhibits MCE proficiency. The data also showed that deaf students who received intensive exposure to ASL were able to surpass their peers with hearing parents on tests of reading comprehension ability. In

summation, “deaf students who perform well on measures of ASL also perform well on measures of MCE and reading”(Hoffmeister, 2000: 157).

Padden and Ramsey (2000) conducted a study analyzing the demographic factors that affected the reading achievement of 98 deaf students. The researchers used elementary and middle school subjects who attended either a residential or day school program. Similar to the previous studies cited, Padden and Ramsey concluded that deaf children with deaf parents have higher reading scores than those with hearing parents. In addition to family language use, the authors determined that total length of time in school (‘tenure’) had a positive influence on literacy.

The third factor found to have positive influence on reading ability was early detection of the child’s hearing loss. The authors note that deaf parents are more apt to detect hearing loss in their children earlier than hearing parents who have little knowledge of hearing impairments. The negative effect of delaying intervention strategies is profound. As Padden and Ramsey state, “the longer the parents waited before confirming deafness, the greater the negative impact on reading achievement” (2000: 171).

Chamberlain and Mayberry (2000) offer a comprehensive meta-analysis of research related to signed language competency and English reading achievement levels. Their study analyzed the work of previous researchers from the early 1900s through the year 2000. From the eleven studies reviewed, the authors concluded that, “ASL development is associated with reading development in students for whom signed language is a primary language” (Chamberlain & Mayberry, 2000: 238). Unknown, however, is the exact nature of the connection between ASL proficiency and reading competency since the studies reviewed evaluate only the correlation and not causation of ASL and reading development. Chamberlain and Mayberry (2000) also suggest a model for instruction that would facilitate literacy development in deaf students. The authors suggest that the theoretical framework of the Simple view of reading (as described by Hoover & Gough, 1990) provides the basis for a framework of reading instruction specifically tailored to deaf signing students. The Simple Theory of reading holds that there are two main categories of literacy processing, those of decoding and linguistic comprehension. Chamberlain and Mayberry (2000) assert that ASL can be used in a bilingual framework as the primary language to facilitate conceptual development and narrative comprehension. The authors conclude that there is much research to be done in the field of reading instruction and deafness.

6. Interpreters in inclusion settings

The current definition of the educational interpreter’s role in the U.S. is highly variable. The Registry of Interpreters for the Deaf (RID) has published a “Standard Practice Paper” which defines an educational interpreter as “a member of the educational team” (2000: 1). RID suggests that an interpreter’s main role in the classroom is to facilitate communication between students and staff. They further stress that interpreters working in educational settings need to have specific knowledge of academic content as well as knowledge of child development (RID, 2000).

Seal (1998) offers a description of the educational interpreter’s position. Among other responsibilities related to the actual process of interpretation, she recommends that interpreters be able to “assist with other duties as determined appropriate by the educational team” (Seal, 1998: 23). It is the definition of “other duties” which causes dispute among professionals involved in the education of deaf students. A progressive view of educational interpreting acknowledges the limitations of the average mainstream educator regarding the linguistic constraints affecting the academic success of deaf students. Limitations may be due to the fact that the average educator has little training in becoming aware of the linguistic needs and diversity of deaf students.

To date there has been very little research related to sign language interpreters in the mainstream educational setting (see Jones, Clark, & Soltz, 1997; Schick, et al., 1999; Seal, 1998). There has been no analysis of the interpreter’s role and its longitudinal impact on the academic outcomes of deaf students. Nor have studies been conducted which describe the effects of learning content information via the process of interpretation. Thus, the only research available that can aid the present discussion is specifically related to philosophies of the educational interpreter’s role and the training requirements for educational interpreters.

Dahl and Wilcox (1990) conducted a survey of 50 interpreter-training programs (ITPs). They asked ITP coordinators if specific courses related to educational interpreting were offered and whether

or not ITPs had curricula focused on various aspects of deaf education. Their results showed that only 69% of the programs surveyed offered specific coursework in educational interpreting. Dahl and Wilcox conclude that, "graduates of interpreter training programs who enter educational interpreting are embarking on a specialized career for which they are only partially prepared" (1990: 278).

Cawthon (2001) studied two inclusion classrooms, with deaf students who used sign language interpreters, one kindergarten and first-grade combination class and one second- and third-grade combination class. Cawthon assessed the type of communication initiated by mainstream teachers with their deaf and hearing students. In both classrooms, speech acts directed toward deaf students were greatly reduced in frequency compared to those directed toward hearing students. Cawthon did note that the complexity of utterances directed to deaf students was higher than the complexity for speech acts directed toward hearing students. The author provided anecdotal evidence which suggested that the teachers were attempting to clarify and expand upon concepts and topics during their interactions with deaf students.

Cawthon (2001) also interviewed the two mainstream teachers regarding their philosophies of interpreter roles and responsibilities. Both teachers reported having a team approach to educating their deaf students, with the educational interpreter being a critical member. Cawthon quotes the teacher of the second- and third-grade combination class, "she [the interpreter] has as much input as anyone else" (2001: 222). Teachers reported using interpreters not only for the facilitation of communication, but for monitoring and modifying behavior, assisting transitions, and interacting with students regarding curriculum implementation. It seems that the educators in this mainstream program have modified the role of 'standard interpreter' in order to conform to the educational requirements of the setting.

Jones et al. (1997) provide perhaps, the most comprehensive review of the role and qualifications of educational interpreters working in inclusion settings. The authors surveyed 222 educational interpreters in three Midwestern states. According to their findings, only one-fifth of the interpreters responding declared that they had a bachelor's degree or higher. The median level of educational background was determined to be equivalent to a vocational certificate or less (Jones et al., 1997). In regard to skill level, the overwhelming majority of interpreters reported having no certification, either state level or national level, for signed language interpretation. In addition, more than half of the interpreters reported not being evaluated prior to being hired (Jones et al., 1997). These results suggest that the administration did not place a high value on interpreter skill level or educational training when considering the most advantageous personnel to accommodate academic instruction for deaf students.

Schick, Williams, and Bolster (1999) evaluated signed language interpreters working in inclusion placements in Colorado. The authors proposed new evaluation criteria for educational interpreters that they utilized for the purposes of assessment in their study. Their proposed evaluation tool entitled the "Educational Interpreter Performance Assessment (EIPA)" focuses on actual interpreting performance within the classroom and environment that the candidate has been assigned. The authors emphasize that their tool has been designed to be an evaluation process that incorporates language variety and consumer needs familiar to the interpreter. According to the authors, "interpreters are evaluated on exactly what they are asked to do in the classroom and not some idealized system or language" (Schick et al., 1999: 146). The results of the evaluation are scored on a scale of 0 (no skills) to 5 (advanced) (Schick et al., 1999). The researchers indicate that Colorado has accepted level 3.5 as the minimum standard for educational interpreting skill. Because the interpreters are assessed in the environment and language most familiar to them, the assessment results reveal specific information regarding the performance of interpreters in actual academic contexts. This is noteworthy because the study's findings indicate that "educational interpreters who work in public schools are not always qualified to provide a child with an adequate interpretation of classroom discourse" (Schick et al., 1999: 150). In fact, less than half of the interpreters evaluated performed at minimally acceptable levels (Schick et al., 1999). These results indicate that the use of assessment tools that were not designed for educational settings cannot be blamed for educational interpreters' lack of certification. The findings would seem to indicate that interpreters are, in fact, uncertified because they do not possess the skills necessary to be accurate and effective interpreters.

Watson and Parsons (1998) address the issue of educational interpreters in the British school setting. Their study analyzes the various settings and communication modes used in educating deaf children in Britain. Interpreters are used less frequently in British academic placements than in the U.S. During their discussion of the role of educational interpreters in the U.K., the authors pose an interesting question: Is the interpreting process enough of an accommodation, or does the deaf student

need “a teacher to be both interpreting and giving additional teacher support” (1998: 141)? Educators and administrators in the U.S. of Deaf students in mainstream placements need an answer to this question in order to facilitate adequately academic progress for deaf students. Merely providing access to verbal language in the mainstream classroom has not proven adequate to meet the educational needs of deaf students. Further research is warranted to identify the most effective components of an educational curriculum and linguistic training for deaf children in the mainstream setting.

Current mainstream environments may not be affording students access to content information strictly due to the linguistic constraints impacting access to the curriculum. Research indicates that for DofH, in a mainstream classroom, the classroom educator will be unfamiliar with their language mode and thus unable to provide direct linguistic input and feedback (Cawthon, 2001; Jones et al., 1997; Salend, 2001; Salend & Longo, 1994).

7. Considering the profession of language acquisition specialist

An obvious void in the educational process for Deaf children in the U.S., which is seldom addressed, is intensive language support and intervention services for infants and their hearing families. It is proposed that a new professional specializing in bilingual-bimodal language acquisition be paired with families of infants recently diagnosed with hearing loss. These Language Acquisition Specialists would provide intensive language support to parents and families on an on-going basis until the child has had an opportunity to adjust fully to an academic environment (e.g. third grade). Third grade is typically the level when the curricula become content-based. Therefore, by this time the deaf child needs to have substantial mastery of both English and ASL in order to successfully learn content information. Ideally, the deaf infant, the family (hearing parents and siblings), and the Language Acquisition Specialist would have sufficient quantity and quality of time each week to provide language instruction yielding maximum proficiency in ASL for all family members. Realistically, the Language Acquisition Specialist and the family would most likely need to meet daily in order for the parents and siblings to achieve second language proficiency conducive to optimal language input for the deaf child.

The Language Acquisition Specialist would have the primary responsibility of assuring that hearing parents become fluent in ASL in order to shape this as their child’s first language. Educational outcomes demonstrate that current outreach and intervention services for families of deaf infants, which typically range from one hour per week to one hour per month, are not intensive enough to support the implementation and monitoring of a second home language. The Specialist would additionally, become the child and the family’s case manager in the area of language development services, coordinating audiological services, speech therapy services, and interpreting services. The Language Acquisition Specialist needs to interact with the child from birth via infant stimulation programs, early childhood pre-k daycare placements, and through early elementary placements. This could be accomplished by the placement of the Language Acquisition Specialist in such programs so as to collaborate with and advise child development specialists and educators in matters relating to language stimulation and exposure.

In the early elementary years, the Language Acquisition Specialist would develop and oversee the implementation of language policy in the Individualized Education Plan (IEP) and in the classroom. Policies applied to the educational context without regard to the language exposure needs of the deaf child are inconsistent with successful language acquisition. Typically, the IEP committee is formed by special education teachers and administrators, inclusion teachers, school administrators, interpreters, and parents of the Deaf child. Most of these members are not experts in the field of language acquisition, yet they are developing language policy that will longitudinally impact the deaf child’s academic performance. The educational outcomes of deaf students with regard to literacy development are considerably influenced by the language policies and practices executed by educators within the classroom and, thus, such language policies should be conducive to first and second language acquisition and second language literacy. The Language Acquisition Specialist could provide the needed expertise in the area of first and second language development and literacy achievement. As the deaf child’s bilingualism progresses, the Language Acquisition Specialist would be phased out and the Educational Interpreter would become the primary professional monitoring and facilitating the student’s language and literacy development.

In order to train this new professional in an undergraduate program, a currently existing degree program in the field of Educational Interpreting or Education of Deaf Children would need to create a separate track or concentration emphasizing language acquisition processes and intervention strategies for deaf children. Programs relating to Communication Sciences and Disorders may also be a viable alternative, since the necessary coursework related to language acquisition is typically provided. However, this author feels strongly that deafness should be viewed and embraced as a cultural and linguistic minority and not as any type of disorder. Most Colleges of Education have degree programs focused on bilingual language development, such as English as a Second Language or Bilingual Education. Such programs combined with Education of Deaf Children or Educational Interpreting could provide an inter-disciplinary approach to preparing the Language Acquisition Specialist.

The Language Acquisition Specialist curriculum should include coursework in normal language, delayed language, bilingual language, and literacy development. These preparation programs should provide comprehensive language instruction in ASL, as well as instruction in the linguistics of ASL and signed languages. Students should be proficient in ASL and upper-level coursework should be conducted in ASL in order to provide realistic learning experience in a second language and in the analysis of signed language. Training should also include courses related to lifespan development, family dynamics, and educational psychology. Thus, the professional would be knowledgeable in multiple aspects of educating a deaf child in inclusion placements, such as teaching pedagogy, curriculum standards, developmentally appropriate practices, and bilingual-bimodal language acquisition.

Similar to other professions such as teachers and speech-language pathologists, the profession of Language Acquisition Specialist should be monitored and screened by state agencies in the form of professional licensure, in order to assure the highest professional standards. Licensure should be contingent upon a Bachelor's degree, including specified coursework, demonstrated proficiency criteria, and ASL fluency.

8. A new model: interpreters as educators

It is further suggested that because of the exceptional demands of teaching content curriculum to deaf students, interpreters in educational settings should be trained as educators and as interpreters. In essence, they should be an *educational* interpreter, rather than an interpreter in the educational setting. Interpreters typically work with only one deaf student during the school year and are familiar with their students' needs. The most efficient and effective reform implemented in educating deaf children in inclusion placements is the recreation of the current role of interpreter, in order for an interpreter to become an expert in educating deaf students and facilitating their language and literacy development.

Educational interpreters should be equal members of the educational team. They should collaborate with inclusion teachers on lesson plans, language development, and academic progress. In order to do this, it is proposed that Educational Interpreters be trained in four-year programs similar to teachers. This curriculum would include language acquisition, literacy development, teaching pedagogy, and the interpretation process. Educational Interpreters should be language experts in both the source and target languages used in the classroom. Thus, they should be fluent in ASL and written/spoken English. In order to facilitate the acquisition of ASL as a first language for deaf students, Educational Interpreters should have an in-depth understanding of the linguistics of ASL, including its syntax, morphology, phonology, pragmatics, and academic register. The Educational Interpreter must become an accurate language model and effective language development facilitator in order to improve educational outcomes for deaf students and must also be a highly skilled interpreter in order to transmit accurately content information into the target language.

In order to train adequately the professionals capable of being Educational Interpreters, current interpreter training programs must include a track specific to interpreting in academic settings and the education of deaf children. Teacher preparation programs in the area of Deaf Education may be more appropriate placement options for implementing curriculum specific to Educational Interpreting. First, and foremost, Educational Interpreter training programs should, similar to the Language Acquisition Specialist program, provide intensive and comprehensive language instruction in ASL, signed forms of English, and the linguistics of ASL and signed languages. Educational

Interpreters, again, similar to the Language Acquisition Specialists, must be knowledgeable in bilingual and delayed language acquisition and literacy development. They must also be trained in developmentally appropriate practices of interpreting for a deaf student at various levels.

Educational Interpreters for the deaf should be certified by the national Registry of Interpreters for the Deaf (RID) in the deaf student's first language. In addition, this author would propose that a new certification test similar to the "Educational Interpreter Performance Assessment" designed by Schick, Williams, and Bolster (1999) be developed by RID, in conjunction with national certification, in the form of a Specialist Certificate. Educational Interpreters should also be required to have state licensure in order to assure professional standards. Licensure for the Educational Interpreter should be contingent upon a Bachelor's degree and national interpreter certification.

9. Recommendations

A comprehensive review of the literature has shown that deaf children need to have proficiency in a first language by the time they enter the educational system. Deaf students need to develop communicative competence and literacy in their first language prior to acquiring literacy in their second-language. Nover et al. (1998) refer to the acquisition of communicative competence in ASL as *signacy*. Thus, it can be said that deaf children must achieve signacy in order to achieve literacy. In order to facilitate first language acquisition, new intervention strategies must be implemented. It is recommended that novel approaches to intervention should incorporate the introduction of a new professional who provides intensive language instruction to the deaf child and their family and the revision of the current role of the Educational Interpreter.

The significant language delay experienced by many deaf children from hearing families is detrimental to their educational success. Early facilitation of first language development should become a priority in the education of deaf students. By incorporating a Language Acquisition Specialist into early identification and intervention programs, as well as early elementary programs, educators will be providing much needed linguistic support to deaf students and members of their educational team. Research is needed on the feasibility of language acquisition professionals and the impact of such personnel on the linguistic and educational outcomes of deaf students in inclusive placements.

Currently, interpreters are the main source of linguistic input to foster first language acquisition for a deaf child. If the interpreter is unqualified and/or untrained in educational pedagogy the child may not comprehend the content being interpreted. Comprehensive understanding of the multitude of factors impacting deaf students' educational success has critical implications for training the educational interpreter. Research reveals that educators cannot generate acceptable outcomes in the education of deaf students without first understanding that the role of the educational interpreter has a critical impact on educational processes particularly with regard to language acquisition, cognition, and literacy development. Further research is needed on the role of educational interpreters who work daily with deaf children and who may be capable of providing a first-language model, aiding literacy development, and facilitating academic success.

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