

INSTRUCTION IN A PRIMARY LANGUAGE: A STRATEGY FOR TEACHING CHILDREN WHO ARE DEAF

Abraham Namukoa
University of Alberta

Abstract

Approaches for teaching learners who are deaf in Kenya has been surrounded by a cacophony of strategies, to an extent that teachers are left in a state of continuous conceptual tossing while learners remain actualities of trial and error approaches that have been supported by limited evidence based research. The main dilemma has been the bilingual model of Kenyan education curriculum delivery a factor that has been considered to have been confounded by the visual communication nature for learners who are deaf. Kenyan Sign language (KSL) is the primary language for children who are deaf in Kenya. As they go to school, learners who are deaf are expected to learn in both KSL and English. This paper will discuss the outcomes of using a learner's primary language (sign language) to teach other school subjects among deaf children, will present pertinent research, and will propose instructional adaptations for all teachers working with deaf children.

Key Words: Primary Language, Deaf Students, Kenyan Sign Language

Instruction in a Primary Language: A Strategy for Teaching Children who are Deaf

Learning a first language such as sign language with consistent exposure to proficient primary language models has been identified as one of the best practices in supporting literacy development among children who are deaf and hard of hearing (Easterbrooks & Stephenson, 2006). Strategies that support deaf children to learn Sign Language like Kenyan Sign Language (KSL) or another sign language prior to the introduction of English/spoken language are considered respectful to deaf culture and they foster ownership by helping students develop pride and identity in their deafhood (Enns, 2007; Wilbur, 2000). The evidence supports the use of a bilingual educational approach that promotes the use of a learner's primary language (L1) to develop skills in the learner's secondary language (L2) even though the education curriculum has multiple objectives beyond just language development (Gregory, 1996). Since using a learner's primary language in instruction necessitates conceptual understanding through bridging the gap between the learner's experiences and the process of learning (Enns, 2007), it is important to explore how the bilingualism approach could be generalized to other school learning objectives/subjects.

A lack of consistent instructional approaches and a limited exposure to a learner's primary language has led to delayed language development and a limited capacity in construing abstract content (Hyde, Power, & Zevenbergen, 2003). For example, these factors have limited the capacity of deaf students to understand scientific concepts (Molander, Norell, & Pedersen, 2001). Molander et al. (2001) conducted an interview in a Swedish compulsory school with the aim of assessing the reasoning of deaf pupils about scientific phenomena. This study implemented two steps:

1. Three 15-year-old deaf pupils in grade 8 were assessed regarding their use of scientific concepts in problem solving and their ability to link knowledge from different school subjects to life experiences

2. Seven 17-year-old deaf pupils in grade 10 used the findings from Step 1 to relate scientific concepts to their daily experiences.

The study revealed a variation in the extent to which deaf students use scientific principles for reasoning about science phenomena (Molander et al., 2001). Additionally, the deaf children had a limited ability to connect the school science framework for reasoning to their daily experiences (Molander et al., 2001). Molander et al. generated questions about the need to consider the specific instructional approaches that would bridge the gap between a deaf learner's interaction with curriculum objectives and his or her daily experiences.

Curriculum objectives are well understood by learners if they are delivered in the respective learner's first language (Enns, 2007). The teacher's ability to communicate clearly in sign language has been characterized as being unique to deaf students and as being the most favored characteristic of effective teaching (Anderson, Dowaliby, & Lang, 1994). The fluent use of sign language in explaining scientific concepts, for example, has led to active learner classroom engagement, participation in continuous exploration, and innovativeness among deaf children (Lang, McKee, & Conner, 1993). Moreover, the results emerging from studies of reading, writing, and academic achievement indicate that the deaf children of deaf parents are more successful academically than deaf children with hearing parents are (Gregory, 1996). Attributing this success to the early acquisition and use of sign language within these families confirms the conclusion that the use of sign language/a primary language is beneficial to all aspects of education amongst children who are deaf (Malloy, 2003).

Anderson et al. (1994) conducted a study on critical teaching incidents among students who are deaf and hard of hearing. Anderson et al. conducted interviews with 56 deaf students using the "critical incident technique" where deaf students were asked to reflect on their learning experiences and describe the incidents that motivated them to learn in the classroom. The study categorized and analyzed 839 teaching incidents (Anderson et al., 1994). The most frequently mentioned characteristics were those found in studies with hearing students as well, particularly within the domain of the "Teacher Affect" (Anderson et al., 1994). The teacher's ability to communicate clearly in sign language, however, was not only a characteristic unique to deaf students, but also the most frequently occurring characteristic of effective teaching in this study (Anderson et al., 1994).

The use of a deaf learner's primary language in teaching other school subjects like mathematics and sciences could provide an ideal school platform for learning a second language through connecting the learner's experiences to new content vocabularies and concepts (Kluwin & Stewart, 2001). In a study that aimed to determine how well deaf students understood science concepts, Albertini and Lang (2001) analyzed a sample of 288 written contents in science literacy for learners in grade 6 through 11 and reflective comments from their teachers. The teachers' views in this research established that the mode of communication (verbal or non-verbal) well acquainted to the learners who are deaf or hard of hearing had an impact on their scientific content understanding and writing (Albertini & Lang, 2001).

An analysis of the experiences of deaf teachers who use ASL/sign language in teaching confirmed classroom engagement, active participation, and peak performances for learners who are deaf (Roald, 2002). Smith and Ramsey (2004) described the classroom discourse practices of a deaf teacher (native ASL) with 35 years of experience. The teacher

used American Sign Language (ASL) as the medium of instruction in a fifth-grade classroom in a residential school (Smith & Ramsey, 2004). The analysis of three lessons illustrated the use of ASL linguistic features to encourage student participation (Smith & Ramsey, 2004). In constructing a teaching style using ASL, the teacher also employed discourse practices common among skilled teachers (regardless of the medium of instruction) such as maintaining a moderate level of control and selectively modeling naïve questions (Smith & Ramsey, 2004). Smith and Ramsey's analysis confirmed that the teacher's ASL fluency and experience interacted to yield an effective strategy for increasing student involvement. The findings in the Smith and Ramsey study are consistent with the views expressed by other studies on the same topic (Albertini & Lang, 2001).

Although few studies have considered assessing views from deaf professionals with previous experience in education system, the documentation of such views would support and model teachers and students who are deaf (Wilbur, 2007). In an action research study on the reflection of Norwegian deaf science teachers in teaching and learning science subjects, five deaf teachers participated in an interview questionnaire (Roald, 2002). Their experiences as former science students and current teachers were gathered and analyzed (Roald, 2002). The findings of the Roald (2002) study revealed that:

1. The systematic communication of scientific topic concepts using sign language prior to the reading of the textbook was considered helpful in content understanding
2. The students benefited from visual illustrations of concepts combined with developing and consistently using concept related signs in class
3. The students benefited from the discussion of homework questions before engagement since they found the language used in explaining the concepts to be more challenging than the concept itself.

This research study showed that a teacher's communication skill and language of instruction are vital in effective content delivery (Roald, 2002).

The Way Forward

The literature has confirmed that instruction in a primary language supports the development of other languages (Malloy, 2003). The generalization of this model to all curriculum areas would form a strong foundation for vocabulary development and concept application to general settings among children who are deaf (Albertini & Lang, 2001; Kluwin & Stewart, 2001). However, the biggest challenge in using a learner's primary language for instruction within an inclusive setting has been identified as the existing pathological models/misconceptions of deafness and the deficit pedagogy that focuses on the acquisition of speech and social assimilation (Komesaroff & McLean, 2006).

Inclusive education has been considered by some research to be unhelpful to deaf children and the adaptation of broader concepts that allow long-term child inclusion not only in the education systems but also in the society are recommended (Powers, 2002). In fact, Powers (2002) insists that special schools could be more appropriate for some deaf children since they allow access to the curriculum and peers. Nonetheless, evolution in educational policies is inevitable and the need for fluidity in the implementation of deaf education is critical (Yoshinaga, 1997). In an inclusive system, all teachers, students, and parents need skills in sign language and exposure to deaf culture in order to promote greater equality in

interactions (Komesaroff & McLean, 2006). To facilitate the development and the use of primary language in inclusive programmes for children who are deaf, schools should consider the adaptation of approaches that address: (a) a lack of prior knowledge required for the lesson (early experience); (b) a lack of a strong language base and cultural exposure (deaf models); and (c) a lack of skilled interpreting (McKee & Biederman, 2002)

The Use of Deaf Paraprofessionals

Deaf paraprofessionals are a group of deaf persons who work in schools and whose employment is not governed by any professional requirements or qualifications (McKee, 2005). They work side by side with other school staff (McKee, 2005). Schools could use deaf paraprofessionals to introduce deaf culture, upload deaf identity, and make ASL/Sign language a part of the school culture rather than just an accommodation for children who are deaf (Smith, 2003).

A case study by McKee (2005) on "deaf paraprofessionals in mainstream schools" divulged similarities in the views between the parents, mainstream teachers, teachers of the deaf, and deaf paraprofessionals who were involved in the study. This study confirmed that deaf paraprofessionals model good language and cultural skills and, hence, support the development of a child's primary language within an inclusive setting (McKee, 2005). Therefore, schools with deaf inclusive programmes need to consider implementing a staffing structure that reflects and supports a bilingual school community (Smith, 2003).

Considering instituting bilingual staffing within deaf inclusive schools forms a strong foundation for all stakeholders to appreciate the role of a learner's primary language in curriculum delivery (Smith, 2003). Bilingual staffing has also been considered fundamental in narrowing the existing gap of prior exposure to a primary language between the deaf children of deaf parents and the deaf children of hearing parents (Enns, 2007; Wilbur, 2000). With the adoption of bilingual staffing, teachers, parents, children (both hearing and deaf), and the community would have full-time access to deaf culture and to the visual language used by the deaf community (McKee, 2008).

Parental Involvement

The "space" between the identification of a child as being deaf or hard of hearing to the time when interventions are proposed and implemented can be equated to a long and complicated journey (McKee, 2006). Children who are deaf spend a significant amount of time with their parents or guardians before entering any intervention programme (Calderon, 2000). The research divulges that parental involvement in a deaf child's intervention programmes is crucial to the child's language development and academic achievement (Calderon, 2000). Additionally, the high achievement documented among the deaf children of deaf parents is related to the early exposure of these children to sign language as a primary mode of communication (Gregory, 1996).

Calderon (2000) conducted a correlation study on parental involvement in a deaf children school programme. Calderon examined the impact of school-based, teacher-rated parental involvement on four child outcomes:

1. Language development
2. Early reading skills

3. Positive measures of social economic development
4. Negative measures of social-emotional development

A sample of 28 children was assessed for outcomes between 9 to 53 months post-graduation from a birth-to-3 early intervention (EI) programme (Calderon, 2000). Among other factors, the study revealed that parental involvement in a child's school-based education programme was a significant positive predictor to early reading skills but that it shares considerable variance with the maternal communication skills (Calderon, 2000). In this study, the maternal communication skills and the child's hearing loss were the strongest predictors for language development (Calderon, 2000). These findings are consistent with observations in relation to early language exposure for children who are deaf (Gregory, 1996).

A different view for the role of parental involvement in their deaf children education was revealed in a study by McKee (2006). This study examined experiences from parents of children who are deaf and who are enrolled in mainstream schools. The study aimed to investigate the extent to which knowledge about the deaf community was absent from the images construed constricted by parents concerning the identity of their deaf children. Additionally, the impact of parental connection to deaf cultural resources was also assessed in the study. The study concluded that professionals who have deaf-hearing intercultural skills were crucial in realigning the power imbalance between deaf and hearing people and in shaping positive images and aspirations for deaf children's futures (McKee, 2006). As confirmed by the study, parental involvement in inclusive education for their children who are deaf could support their child's language development and academic achievement (Calderon, 2000; Gregory, 1996), support the process of deaf cultural awareness and deaf identity, and upload the role of sign language in the curriculum delivery (McKee, 2006; Malloy, 2003)

The Use of Sign Language Interpreters

The research confirms that linguistic isolation, the lack of deaf-appropriate teaching strategies, and an over-dependence on teacher aides who have limited experience are the main barriers to success amongst children who are deaf (McKee, 2003). As schools attempt to bridge the gaps created by linguistic isolation, the need to incorporate qualified interpreters has been highlighted as paramount (McKee & Biederman, 2002; Russell, 2010) since classroom sign language education interpreters serve as one mode of facilitating instruction in a learner's primary language (Hadjikakou, Petridou, & Stylinous, 2005). Both learners with deafness/HH and their teachers depend on interpreters for communication in an inclusive setting. With this reason, the value of sign language interpreters in relation to education needs to be given more consideration.

However, a research study by Schick, Williams, & Kupertmintz (2005), examined the quality of sign language interpreter services and its impact on education for learners with deafness in the United State. The study investigated 2,100 educational interpreters who were evaluated by Educational Interpreters Performance Assessment (EIPA), an instrument used to assess and certify classroom interpreters (Schick et al., 2005). The results from this study confirmed that 60% of the interpreters had inadequate skills to provide full educational information access (Schick et al., 2005). In addition, the educational interpreters who had completed an interpreter training programme had EIPA scores that were only 0.5 of a level above those who were not trained (Schick et al., 2005). This result clearly suggests that learners with deafness/HH receiving interpreter services are limited from receiving

reasonable access to classroom curriculum and social interaction (Russell, 2010). Considering these findings, educational programmes need to prioritise good quality interpreters' service and explore possible classroom partnership strategies (Hadjikakou et al., 2005).

The role of the sign language interpreter in mediating the process of classroom instruction with a learner's primary language has also been revealed by key research on sign language and classroom interpretation (Russell, 2010). In a case study on the use of classroom interpreters in educational setting, Russell (2010) observed that there was a need for qualified interpreters to manage school processes with accuracy such as classroom sessions, debates, and group work. Russell also confirmed that a lack of qualified interpreters affected the quality of the instructions delivered to children who were deaf. Sign language interpreters' services, if well managed, could support curriculum delivery within inclusive programmes (Hadjikakou et al., 2005). However, it should be noted that the age of the learner, qualification of the interpreter, and the learner's skills in utilizing the service could negatively affect the impact of classroom interpretation (Russell, 2010).

Collaborating Hearing Student

Deaf culture, deaf identity, and sign language could be well appreciated if hearing children who learn side by side with their deaf counterparts are involved in or play a part in the educational intervention programmes (Hadjikakou et al., 2005). A study by Crooke, Drye, Egbert, Klein, and Kreimeyer (2000) examined the social and academic performance of learners with deafness/HH in an inclusive setting. The research study involved 282 students (Crooke et al., 2000). Seventeen percent of these students were learners with deafness/HH (Crooke et al., 2000). The strategy used for teaching involved grouping deaf/HH and hearing students together during academic activities (Crooke et al., 2000). The data from this study confirmed that learners with deafness/HH, working together in groups with hearing students during academic activities, experienced increased interactions and boosts to their performances academically (Crooke et al., 2000). At the same time, an understanding of the deaf culture and sign language was created among the hearing learners (Crooke et al., 2000). Therefore, as we consider including deaf children in general education programmes, the teaching strategies need to be adjusted to support each category of learners learning from one another (Hadjikakou et al., 2005).

Conclusion

The implementation process of inclusive education needs to be observed acutely in order to perfectly merge its theoretical definitions and give a positive educational outcome to learners with deafness/HH (Calderon, 2000). As accommodations are made for learners with deafness/HH in an inclusive setting, more priority must be given to needs with a significant impact on the educational achievement (Antia & Stinson, 1999). Although the research has indicated that a learner's primary language is the favoured characteristic among deaf children (Anderson et al., 1994), the current research is focusing less on meeting the quality and standards appropriate to instructional procedures (Marschark & Spencer, 2010). The research findings presented in this paper have provided plausible evidence supporting the use of a learner's primary language in teaching all subjects to children who are deaf and hard of hearing. Therefore, all professionals working with children who are deaf/hard of hearing should consider adopting this instructional approach to their respective subjects.

References

- Albertini, J. A., & Lang, H. G. (2001). Construction of meaning in authentic science writing of deaf students. *Journal of Deaf Studies and Deaf Education*, 6(4), 258–284.
- Anderson, H. P., Dowaliby, F. J., & Lang, H. G. (1994). Critical teaching incidents: Recollections of deaf college students. *American Annals of the Deaf*, 139(2), 119-127.
- Antia, S. D., & Stinson, M. S. (1999). Considerations in educating deaf and hard of hearing student in inclusive setting. *Journal of Deaf Studies and Deaf Education*, 4(3), 163-175.
- Calderon, R. (2000). Parental involvement in deaf children's education programmes as predictor of child's language early reading and social emotional development. *Journal of Deaf Studies and Deaf Education*, 5(2), 140-155.
- Crooke, P., Drye, C., Egbert, V., Klein, B., & Kreimeyer, K. H. (2000). Academic and social benefit of co-enrolment model of inclusive education for deaf and hard of hearing children. *Journal of Deaf Studies and Deaf Education*, 5(2), 174-18.
- Easterbrooks, S. R., & Stephenson, B. M. (2006). Master teachers' responses to twenty literacy and science/mathematics practices in deaf education. *American Annals of the Deaf*, 151(4), 398-409.
- Enns, C. (2007). Process and product: Creating stories with deaf students. *TESL Canada Journal*, 25(1), 1-22.
- Gregory, S. (1996). Bilingualism and the education of deaf children. Paper presented at the Bilingualism and the Education of Deaf Children: Advances in Practice Conference, Leeds, UK.
- Hadjikakou, K., Petridou, L., & Stylianous, C. (2005). Evaluation of support service provided to deaf children attending secondary general school in Cyprus. *Journal of Deaf Studies and Deaf Education*, 10(2), 203-211.
- Hyde, M., Power, D., & Zevenbergen, R. (2003). Deaf and hard of hearing students' performance on arithmetic word problems. *American Annals of the Deaf*, 148(1), 56-64.
- Kluwin, T. N., & Stewart, D. A. (2001). *Teaching deaf and hard of hearing students: Content, strategies and curriculum*. Boston: Allyn & Bacon.
- Komesaroff, L., & McLean, M. (2006). Being there is not enough: Inclusion is both deaf and hearing. *Deafness and Education International*, 8(2), 88-100.
- Lang, H. G., McKee, B. G., & Conner, K. (1993). Characteristics of effective teachers: A descriptive study of the perceptions of faculty and deaf college students. *American Annals of the Deaf*, 138, 252-259.
- Malloy, T. V. (2003). Sign language use for deaf, hard of hearing, and hearing babies: The evidence supports it. *American Society for Deaf Children*. Retrieved from http://www.deafchildren.org/resources/6_Sign%20Language%20Use.pdf.
- McKee, R. (2005). As one deaf person to another. Deaf paraprofessionals in mainstream schools. *Deaf Worlds*. retrieved from http://www.victoria.ac.nz/lals/research/projects/publications/Report_5_Deaf_Paraprofessionals.pdf
- McKee, R. (2006). Connecting hearing parents with the deaf world. *SITES New Series*, 3(1). retrieved from <http://sites.otago.ac.nz/index.php/Sites/article/view/45/28>
- Molander, B. O., Norell, K., & Pederson, S. (2001). Deaf people reasoning about scientific phenomena: School science as a framework for understanding or as fragments of factual. *Journal of Deaf Studies and Deaf Education*, 6(3), 200-212.
- Roald, I. (2002). Norwegian deaf teachers' reflection on their science education: Implications

- for instruction. *Journals of Deaf Studies and Deaf Education*, 7(1), 57-73.
doi:10.1093/deafed/7.1.57
- Russell D. (2010). Inclusion or the illusion of inclusion: A study of interpreters working with deaf students in inclusive education settings; University of Alberta, Canada;
- Smith, D. H., & Ramsey, C. L. (2004). Classroom discourse practices of a deaf teacher using American Sign Language. *Sign Language Studies*, 5(1), 39-62.
- Smith, E. (2003). Deaf ways: Literacy teaching strategies of deaf teachers in New Zealand. Unpublished Masters thesis, Victoria University of Wellington.
- Wilbur, B. R. (2000). The use of ASL to support the development of English and literacy. *Journal of Deaf Studies and Deaf Education*, 5(1), 81-104.
- Powers, S. (2002). From concepts to practice in deaf Education: A united kingdom perspective on inclusion. *Journal of Deaf Studies and Deaf Education*. 7(3), 230-243.
- Yoshinaga, C. (1997). The challenge of assessing language in children with hearing loss. *Language, Speech, and Hearing Services in Schools*; 28 (4) p362-73

Author Information

Abraham Namukoa
namukoa@ualberta.ca