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# An Alternative View of Education for Deaf Children: Part I

*Sue Livingston*

Quigley and Kretschmer (1982) asserted that the primary goal of education for deaf children should be literacy in English. This article presents an alternative view that there be two primary goals: (a) thinking and learning through the development of meaning-making and meaning-sharing capacities and (b) the acquisition of literacy in English. In this article, the first of these goals is viewed as the more fundamental since it facilitates the acquisition of knowledge while it simultaneously serves as the prerequisite for the acquisition of literacy in English. Because neither direct language instruction nor the exclusive use of English in sign will facilitate the development of meaning-making and meaning-sharing, this goal underscores the need for classroom practices that are content-focused and actively engage students through the use of the linguistic symbol system that appears to best convey meaning for deaf students—American Sign Language. (Part 2 of this article explores the process of English literacy acquisition by deaf learners.)

Quigley and Kretschmer (1982) asserted that "the primary goal of education for typical (non-multiply handicapped) prelingually deaf children should be literacy" (p. xi). Although no one would deny that knowing how to read and write is an appropriate goal for the education of deaf children, it is inadequate as the only primary education goal for these children.

Another primary and more fundamental goal of education for deaf children should be the same as it should be for all children—the ability to think and learn through the development of meaning-making and meaning-sharing capacities. This ability enables children to explore new ideas and to share these ideas with teachers and peers as clearly, quickly and easily as possible. It is the ability to understand and to share that understanding through the assistance of language. When children actively understand and share understanding, they are simultaneously thinking and learning by making discoveries, recognizing discrepancies with previous understanding, and reorganizing existing mental structures. By so doing, they acquire new knowledge about their world—a desirable product of an education.

Conveniently, the by-products of thinking and learning—"a mind that is well-stocked; a mind that is active" (Butler & Clay, 1982, p. 17) with "information already available in the brain" (Smith, 1982, p. 9)—are also prerequisites for learning to read and write. "Reading and learning to read . . . are dependent on the prior knowledge and expectations of the reader" (Smith, 1982, p. 2). Prior knowledge depends on the opportunities the reader has had to understand and share understanding about a particular subject. Expectations, in turn, depend on the prior knowledge of the reader—we cannot expect things to happen unless we already possess knowledge about prior related happenings. Writing and learning to write grow out of the desire to enhance and clarify our ideas and to share our knowledge with others. Without something to say, there is nothing to write.

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The ability to think and learn through the making and sharing of meaning, then, is both an important product of education and a prerequisite for literacy acquisition. For deaf children, who, unlike hearing children, lack histories as users of language for meaning-making and meaning-sharing, developing this ability needs to be a basic part of their education so that they may learn about the world and use their knowledge to acquire literacy. How might this goal translate into classroom practice?

Existing approaches to educating deaf children stem philosophically from the Quigley and Kretschmer (1982) assertion that literacy acquisition should be the only primary goal of education for deaf children. When reading and writing are viewed as the only primary goal of education for deaf children, English is, understandably but mistakenly, viewed as the only language that deaf children must learn in order to attain that goal. Believing they are acting in the best interests of their students, teachers rely on English as the sole linguistic symbol system to be used and purposefully taught in their classrooms. Further, since it is assumed that the more deaf children are immersed in English the better their reading and writing will be, all subject areas are also taught through English.

This article attempts to show how the fundamental abilities of thinking and learning through the making and sharing of meaning can be implemented in classroom practice for deaf learners. To do this, several issues must be addressed.

## THINKING AND LEARNING

Piaget (1977) views children's thinking and learning as primarily self-directed, active processes that function when children are physically involved and interacting with their environment. Learning occurs when children, by making their own discoveries, become aware of contradictory or problematic evidence and reorganize existing mental structures to manage this evidence more effectively. Recognition of a discrepancy or problem depends on the assimilability of the new evidence into the child's existing mental framework. Unless previous related understanding exists, recogni-

tion of a discrepancy created by new unassimilable evidence, the trigger to new learning and new mental organization, will not take place.

This view of thinking and learning places children at the center of their own learning. What they learn is essentially a function of what they come to know on their own through their own resolution of problematic evidence. This process is essentially the same for adults as well. However, because adults have engaged in the process for an extended period of time, their knowledge, their ideas, and their understanding—all products of the process—are, of course, substantially more sophisticated. In part, this difference can be attributed to the use of a linguistic symbol system for meaning-making and meaning-sharing. Adults know more about their world and have more ideas and more understanding than children because they have had more opportunities to make and to share meaning and to thereby think and learn.

The predicament of young deaf children who are born to hearing parents and raised without a viable, conventional linguistic symbol system provides a clearer example of this process-product difference. Although such deaf children appear to have little difficulty with the self-directed thinking and learning process itself, learning from that process is limited since it has not been linguistically represented for them. Children's nonlinguistically represented discoveries cannot be shared linguistically with others and the lack of this sharing prevents them from enhancing their understanding and thereby creating a foundation for future understanding.

New learning that may become part of the child's own privately represented gesture system remains personal, often complexly idiosyncratic and difficult to interpret. This private learning does not promote social interaction and the learning that stems from social discourse. Therefore, without a viable linguistic symbol system with which to make and share meaning, conventional linguistic representation of understanding will not occur, and mental structures will not be reorganized to enhance learning. As a result, thinking and learning—the acquisition of new knowledge—will not be fully realized. Since the making and sharing of meaning does indeed influence thinking and learning, deaf children must acquire a viable, primary linguistic symbol system in order to make and to share meaning and to thereby think and learn. How might this be accomplished?

### **Acquiring a Primary Linguistic Symbol System**

If children think and learn as described in the preceding section, would they not also acquire language through this process as well?

Children learn language if they are interacting with assimilable content or with content in the process of becoming assimilable and if they are using and being exposed to a viable linguistic symbol system with which to share understanding about that content. With content understood or in the process of becoming understandable and meaning being shared about that content, children are provided a framework from which to tacitly infer the linguistic form serving as the vehicle for the conveyance of meaning. Children's primary linguistic symbol system is acquired, therefore, when they are afforded opportunities to convey meaning directly connected with ongoing assimilable experience through the use of a viable, conventional linguistic symbol system. The form of the symbol system will naturally emerge from this environment if children are exposed to the

symbol system and use it to make and share meaning—to think and learn about specific content by making discoveries, by noting discrepancies with previous understandings, and by reorganizing existing mental structures to accommodate new understanding.

Ironically, however, even though it is known that deaf children who have deaf parents and are provided an early, rich language learning environment do, in fact, learn language this way (Bellugi & Klima, 1972; Caselli, 1983; Collins-Ahlgren, 1975; Ellenberger & Steyaert, 1978; Hoffmeister, 1978; Kantor, 1980), deaf children of hearing parents arrive at school only to begin the language acquisition process since they are denied the opportunity to learn language in another way. For such children, language is not acquired but is "learned" in "language lessons" where the vocabulary and structures of English are taught according to one or another "language curriculum." Through drill and reinforcement, children supposedly move from simple to more complex forms that in some way are supposed to eventually accumulate as language. In such teaching, the learner has little to do other than to repeat and practice the language form in the day's lesson, the precursor to a language form in some future lesson and just a bit more difficult than the previous form. An illusion of success exists when students either correctly mimic their new "learning" or correctly complete their worksheets. Far from learning the targeted linguistic form, the clever student becomes adept at memorizing a pattern resulting primarily in the successful completion of a worksheet and little more. In addition, and perhaps most important, such "learning" is almost never usable in new situations, which is the hallmark of genuine language capacity.

Acquiring one's primary linguistic symbol system would have to be viewed as the work of the acquirer rather than the work of a teacher charged with teaching it, if language acquisition is viewed in the same manner as how children think and learn. The viability of formally teaching language to deaf children who miss the supposed critical period for first language acquisition would have to be questioned if the process of thinking and learning, and hence the process of first language acquisition, is the same for all children. These deaf children can catch up in language acquisition to the degree they are given appropriate opportunities to make and share meaning.

If acquiring one's primary linguistic system is more the work of the acquirer than the teacher, what might teachers do to facilitate this acquisition?

### **Teachers Facilitating Acquisition of a Symbol System**

The language learning environment in schools for deaf children should reflect as closely as possible the language learning environment of all first-language learners. In such an environment, parents and children exchange ideas primarily related to the ongoing activities of the children. Since the goal of these interactions is to make and convey meaning and not to teach specific linguistic forms, linguistic forms are not targeted for the children to learn and are not unnecessarily simplified. Instead, parents focus on the particular content they want to convey, knowing that the form of this content will evolve as a by-product, a natural outgrowth, of their exchange of meaning.

This kind of environment reflects many of the principles by which children think and learn in general. Since children

learn language similarly to the way they learn in general, these principles will also serve as the principles for developing a primary linguistic symbol system (and, eventually, for the acquisition of literacy in English as well). Some of these principles, adapted from Labinowicz (1980) and formulated as questions teachers for deaf children might ask themselves about their classroom language learning environment, are listed below. They presuppose a rich linguistic environment where a viable linguistic symbol system is employed to exchange ideas about particular content deaf learners might encounter:

1. Are there hands-on activities? Are children actively involved?
2. Have the children had sufficient experiences to gain meaning from what is being offered? Are they being made aware of their previous knowledge and using it to address new problems?
3. Do children have the opportunity to figure out something in their own way? If their predictions are inconsistent with outcomes, are they made aware of the discrepancies so they can reorganize their mental structures to more effectively deal with such discrepancies?
4. Are children first provided with meaningful whole views of problems from which specific aspects can be worked out with the aid of context as a framework?
5. Do children have the opportunity to "hear" other children's views being expressed? Are children working together on projects? Are older children interacting with younger children? Are children being encouraged to talk about their own experiences?

When "language instruction" is not the direct focus of attention, children actively use language to make and convey meaning about the content they are engaged with. When students use language in real, novel ways on their own, they are learning the language. By creating new ideas in their own language, deaf learners are not only acquiring new knowledge but also tacitly acquiring the form of that knowledge as well.

What form does that knowledge take? Although the phrase "viable linguistic symbol system" has been used with regularity, what this might be has not yet been discussed.

### VIALE LINGUISTIC SYMBOL SYSTEM

Klima and Bellugi (1979) demonstrated that twice as much time is required to sign the sign equivalent of a particular word when compared to the time required to say that same word. Yet the rate of producing *propositions* in American Sign Language (ASL) is similar to the rate of producing the same propositions in spoken English. Klima and Bellugi asserted that this finding supports the notion that a common underlying temporal process governs the rate of producing propositions in all natural languages. Klima & Bellugi argued that proposition rates differ significantly when a story is signed in ASL as opposed to Signing Exact English (SEE II), a Manually Coded English (MCE) system. Because SEE II requires that more sign units be signed, it takes longer to sign a proposition, which disrupts the natural, underlying temporal production rate for propositions occurring in natural languages.

Another study of production rates demonstrates the problem inherent in speaking and signing at the same time. Hearing signers substantially decrease their speaking and

signing rates when they are talking and signing Pidgin Sign English (PSE) (Baker, 1978). Since this decrease in production rate does not occur when hearing signers only sign and do not use their voices, Baker attributed the decrease to cross-channel production problems. She did state that these problems are less intense than the problems arising when one is simultaneously speaking and employing one of the MCE systems, but she nonetheless asserted that simultaneous communication is a "highly demanding method of communication" (p. 21).

If, as it appears, SEE II and, to a lesser extent, PSE used with voice by hearing signers take longer to express propositions and are therefore more artificial and cumbersome ways of discovering and expressing meanings, would they not also place unnatural receptive demands on deaf children attempting to make meaning out of incoming linguistic information? An informal study conducted by several graduate students at New York University investigated how well 10 deaf children, ages 6 to 16, understood sentences conveyed to them by a system that distorts the rate of propositions—an MCE system—and one that does not—ASL. All the subjects were born of hearing parents.

The children were asked to show the meaning of a series of sentences, presented in the Appendix, by manipulating doll house people and furniture. To ensure that the sentences' meanings were within the children's range of understanding, sentences were composed of both familiar vocabulary and, for the most part, familiar underlying relationships used by deaf children in their naturalistic expression as documented by Livingston (1983). Several semantically unpredictable sentences (e.g., Daddy sits on the TV.) were included so that the children would have to use their knowledge of structure in order to render a correct demonstration. For the most part, each succeeding sentence was longer and increasingly complex. Each sentence was first signed in Signed English, the form of MCE used by the children's teachers. If the sentence was not correctly demonstrated in Signed English, the sentence was signed in ASL. The researchers ended the task when three sentences in a row were missed in ASL.

Almost consistently, both younger and older subjects understood in ASL, but not in Signed English, sentences that were syntactically complex in English (e.g., 12 and 21), conveyed spatial relationships (e.g., 9 and 14), and were long (e.g., 7, 11, 17, and 22). Short, less complex, predictable sentences (e.g., 1, 2, 3, 5, and 8) were understood in Signed English (see Appendix). For the most part, then, when more meaning was being conveyed, English had to be forfeited for a more viable symbol system.

The implications of this informal study should be obvious. Except when meaning was conveyed simply, Signed English placed unnatural receptive demands on the children. Complex meaningful relationships that were understandable to the children in a natural language (ASL) were incomprehensible in MCE. Using a system that places unnatural receptive demands on deaf children means that only the simplest of sentences will facilitate their thinking and learning, when, in fact, they are capable of understanding more complex meanings through the use of a natural linguistic system (ASL) that more appropriately conveys meaning for them.

This issue can be approached in another way. It seems reasonable to assume that the linguistic system deaf children

naturally use would also be the linguistic system that makes the most sense to them. Studies focusing on the 90% of deaf children born to hearing parents show that they obtain only limited competence in Signed English even after 4 years of exposure to it (Bornstein, Saulnier, & Hamilton, 1980, 1981). Even in the absence of a sign model, they create a linguistic system that is rule governed, although not by the rules which govern English (Goldin-Meadow & Feldman, 1975). In fact, even when the model is Signed English, complex linguistic processes that resemble ASL grammatical processes develop (Livingston, 1983; Suty & Friel-Patti, 1982) and are used with greater facility than Signed English structures (Livingston, 1983). Deaf children, then, demonstrate linguistic competence in the use of ASL processes superior to their linguistic competence when using Signed English structures (Livingston, 1983).

Since deaf children will grow up to become deaf adults, it makes sense for them to learn and use the language of the deaf community. Misconceptions about what language is actually most used by deaf people exist, however. In an attempt to discover what language(s) deaf adults used, New York University sponsored a panel discussion to address the following two questions:

1. Which language(s)/system of communication do you use/feel most comfortable using with deaf adults and with hearing adults who do and do not sign?

2. Which language(s)/system of communication do you think should be used in schools for deaf children?

The panelists—deaf graduate students and deaf teachers of deaf children—agreed that the audience to whom they were “speaking” determined which language they used. Although not one adult used any form of MCE, most agreed that they were flexible in their use of PSE and ASL when conversing with deaf or hearing signers, depending on their estimation of their audience’s ASL/PSE competencies. The majority of the adults, however, did say they felt more comfortable using ASL. They went on to say that when addressing hearing adults who do not sign, they preferred to sign for themselves and have an interpreter speak for them. When asked why, they responded that in addition to feeling more comfortable using ASL, they were often not sure how familiar an audience would be with the simultaneous communication (in this case, PSE and voice) of deaf adults. They therefore preferred to ensure that their ideas were being communicated rather than risk the possibility they were not being understood.

The panelists’ answer to question 2 was logically connected to the answer to question 1. Just as these deaf adults considered the needs of an audience, their own comfort with a language, and their personal desire to be understood as criteria for determining the form of communication they would use in interacting with deaf and hearing adults, they used the same criteria when choosing a language to be used in schools for deaf children. The panelists strongly advocated the use of ASL in such schools. They claimed that from their own experiences as deaf students and as teachers of deaf children, deaf children were not, for the most part, competent enough in English to gain adequate meaning from it exclusively. They went on to say that since deaf children use a form of ASL, they need to be allowed to use ASL

to make and share meaning with their teachers and peers. Above all, the panelists noted deaf children desire to understand and be understood; without teachers’ knowledge and use of ASL, mutual understanding would be difficult, if not impossible.

For these reasons ASL appears to be the most viable linguistic system for deaf children to learn and use in order to think and learn through the development of meaning-making and meaning-sharing capacities.

## CONCLUSION

When the development of meaning-making and meaning-sharing is viewed as a primary goal for the education of deaf children, the use of ASL in content-focused activities that engage deaf students in the thinking and learning process appears to be the best means of instruction. Content-focused activities and the use of ASL result in linguistically represented experiences for students, and general literacy develops. With the development of general literacy comes the ability to acquire literacy in English, the other primary goal of education for deaf children and the topic of Part 2 of this article.

## APPENDIX

### Informal Linguistic Task—Test Sentences/Paragraphs

1. Mommy walks.
2. The boy falls and cries.
3. The boy is reading the newspaper.
4. The girl pushes the boy.
5. Mommy sits and watches TV.
6. Daddy sits on the TV.
7. The girl sees the money and jumps in surprise.
8. Daddy and the boy kiss.
9. The cow stands on the pig.
10. Pigs walk.
11. Mommy is standing in the bathtub reading a newspaper.
12. Daddy sees a horse in the bathtub and runs away.
13. The girl kicks the tree and the tree falls down.
14. The giraffe walks from the car to the tree.
15. Daddy is angry because Mommy is standing on the TV.
16. The girl sees a horse riding a cow and tells her Daddy.
17. Daddy, Mommy, the boy, and the girl are sitting. The girl walks away. Daddy becomes angry and brings her back.
18. The monkey is on the tiger and the tiger is on the pig.
19. The girl gives the newspaper to the boy.
20. Daddy buys the newspaper from Mommy.
21. Daddy is pushed by Mommy.
22. There’s a girl reading a newspaper under a tree. A boy drives by in a car. The boy remembers the girl and tells her to get in. They drive for awhile and then they park the car and walk around. The boy goes back to his car and the girl walks away.

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