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ABSTRACT

This study focuses on the language and literacy worlds of three profoundly deaf preschool children, whose lack of a strong spoken English base provided an opportunity to explore the relationship between spoken language development and written language development and to investigate young children's written language development in light of the diversity of their earliest experiences with language. The three children (ages 3-5) exhibited a great deal of multiplicity, diversity, and variability in their verbal language worlds. Each child's written language world, however, was characterized by patterns of consistency and was similar to that of hearing children. The three children used oral/aural English or total communication. Results are discussed in terms of family literacy and preschool literacy. Findings challenge the belief that proficiency with spoken language is prerequisite to written language development. Spoken language and written language were seen as not only parallel forms of the same meaning-based language but also alternative forms. Findings suggest that there is no one pathway to becoming literate. For these children, knowledge of written language became a pathway to spoken and/or signed language acquisition. (Contains approximately 50 references.) (JDD)

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The Language and Literacy Worlds of Profoundly Deaf Preschool Children:
Informing Developmental Theory

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The Language and Literacy Worlds of Profoundly Deaf Preschool Children: Informing Developmental Theory

Over the past fifteen years, researchers investigating young children's early literacy development have focused on the knowledge and understandings about written language that young children possess before they experience formalized instruction. This research has produced a large body of influential literature which describes the nature and importance of young children's early literacy development (Clay, 1967; Ferreiro, 1984, 1985; Goodman, 1984, 1986; Harste, Woodward, & Burke, 1984; Snow & Ninio, 1986) and strongly suggests that literacy learning is a continuous, evolving process beginning long before children pass through the doorway of a first grade classroom. These studies have challenged current perspectives on young children's written language development, in particular, the theoretical notion of reading readiness. The readiness perspective asserts that literacy is a set of sequential skills (e.g., visual and auditory discrimination, letter recognition, sound/symbol correspondence) that children must learn in hierarchic fashion to benefit from conventional modes of reading instruction (see McGee & Richgels, 1990; Morrow, 1989; Teale & Sulzby, 1986). Inherent within the readiness perspective is the "oral language supremacy assumption" (Harste, et al., 1984) which suggests that proficiency in spoken language is a prerequisite to young children's literacy learning. The perspective asserts a linear relationship between spoken and written language development. Findings of early literacy research, however, present young children's language acquisition and early literacy learning as simultaneous and interrelated processes, calling into question the tenets of the readiness perspective, particularly the oral language supremacy assumption.

Several recent early literacy investigations have explored the universality of early literacy learning in light of the diversity of young children's earliest experiences with language and literacy (Anderson & Stokes, 1984; Heath, 1983; Taylor & Dorsey-Gaines, 1988). These studies suggest that young children's experiences with language and literacy both in their homes and in instructional settings influence the children's acquisition and development of written language in important ways.

My research focuses on the language and literacy worlds of three profoundly deaf¹ preschool children, whose lack of a strong spoken English base provided an (unfortunate) opportunity to explore the relationship between spoken language development and written language development. As well, the children's diverse experiences with verbal language (both spoken language and signed language) allowed me to investigate young children's written language development in light of the diversity of young children's earliest experiences with language.

¹The term *deaf* is used in this study to refer to individuals who have profound (<96 dB PTA) hearing losses (Martin, 1986). The term *hearing impaired* refers to individuals whose hearing losses range from slight to severe (16 - 95 dB PTA). The term *hearing impaired* is also used to refer to both deaf and hearing-impaired individuals in instances where persons with hearing losses are referred to as a collective group.

The Language Worlds of Profoundly Deaf Children

Profoundly deaf children's experiences with verbal language are dramatically different from hearing children's experiences with spoken language. The communication barriers imposed by a profound hearing loss often isolate the young deaf child from interactive experiences with people, particularly in the earliest years. The profoundly deaf child does not hear the spoken language used in the environment, and, consequently, does not acquire spoken language with the ease, the rapidity, or to the extent of his/her hearing peers. This is, perhaps, the most significant difference between the language experiences of profoundly deaf children and the language experiences of hearing children.

Compounding the very difficult language learning process for profoundly deaf children is the great diversity which exists within and among their verbal language worlds. Several different modalities may be used for communicating with the young deaf child (i.e., American Sign Language, oral/aural English and speechreading, a multiplicity of manually-coded English systems). The only exception to this scenario is in the case of deaf children born to deaf parents who acquire language naturally and in ways that are very similar to hearing children (Bellugi, 1988; Bellugi & Klima, 1972; Hoffmeister, 1982; Kantor, 1982; Siple, 1982). When deaf parents communicate in American Sign Language (ASL) with their deaf children, language is visually accessible to the young child. Parent-child interactions take place naturally through a shared language system of signs.

Approximately ninety percent of deaf children, however, are born to hearing parents who do not know sign language. Consequently, meaningful interaction is very limited until such time when the parents and child develop a shared language system. This system is occasionally true American Sign Language, frequently oral/aural English, or, quite often, a signed system of English (Meadow, 1968). It is important to the interpretation of the data in this study to understand some of the differences among these communication choices.

American Sign Language (ASL) is the only manual language not derived from any spoken language. It is a spatial, motoric language with a grammar and modality different from that of standard English (Liddell, 1980). Linguists have described ASL as having the regularity and rule-governedness of a true language (Wilbur, 1979) with its own mechanisms for relating visual form with meaning (Bellugi, 1988). While ASL has been influenced by English in several ways (borrowing through fingerspelling, initialization of signs, influence of English word order), it does not have a one-to-one correspondence to English. In fact, the linguistic structure of ASL differs so greatly from spoken English that simultaneous communication in ASL and spoken English is extremely difficult to achieve (Wilbur, 1979).

In contrast to ASL, several signed systems of English have been developed by educators of deaf children to reflect English. These manual systems are not languages; they are codes based upon spoken English, which, with varying degrees of accuracy, follow English morphology and syntax (Wilbur, 1979). They are designed to permit simultaneous communication through signs and spoken English. Even when used proficiently, however, signed systems of English lack the regularity and rule-governedness of

English or, indeed, any true language. While these signed systems follow English word order and in some sense reflect spoken English, they are considerably different from English, and, according to linguists, they should not be considered formal languages (Allen, 1975; Wilbur, 1979).

Oral/aural English is a mode of communication designed to maintain a one-to-one correspondence with spoken English. Hearing-impaired children are taught to maximize their use of residual hearing and speechread the spoken English of their interlocutors. The task of speechreading, however, is extremely difficult. Approximately fifty percent of the sounds of English are indiscriminate from other sounds (e.g., *pan*, *ban*, and *man* look identical on the lips), and perceiving every word in an utterance demands the skill of an experienced speechreader (Gustason, Pftzing, & Zawolkow, 1980). Thus, while the oral/aural mode of communication is designed to reflect spoken English, the child's severely impaired audition and the physical limitations of speechreading often prohibit a one-to-one correspondence.

This presents, then, a second major difference between the language experiences of profoundly deaf children and hearing children. Hearing children living in English-speaking homes and communities hear and speak English. Although the children's experience with and ability to use spoken language may differ, both their receptive and expressive experiences will be in English. This is not the case for young profoundly deaf children. Although they may be reared in English-speaking homes within English-speaking communities, their experiences with and through language will only approximate English, at best, regardless of their mode of communication.

A third difference between the language experiences of hearing children and profoundly deaf children is the amount and kinds of language interactions hearing children experience as a part of their everyday activities. While their experiences may differ (Heath, 1983; Wells, 1986), parents engage their infants in extended dialogue while performing routine caretaker functions (Nelson, 1985). The extent to which profoundly deaf children interact meaningfully with their parents is largely dependent upon the sharing of a common language system (i.e., ASL, a signed system of English, or oral/aural English) which for many is only a very limited shared system. Further, it takes time to develop a mutual system of language; consequently, many profoundly deaf children are highly unlikely to have extensive interaction with their hearing parents during the early childhood years because of a lack of language with which to interact (Meadow, 1981).

A profoundly deaf child's experiences with language also varies depending upon extended family and community interlocutors' abilities to communicate using the young child's mode of communication. Hearing interlocutors may find the deaf child's spoken English unintelligible or may be unable to understand his/her sign language. Furthermore, if their mode of communication differs greatly, even profoundly deaf children reared within the same community may not be able to interact with one another in meaningful ways. A profoundly deaf child who communicates through ASL may have great difficulty understanding his young deaf friend who converses with oral/aural English.

To complicate matters further, when young hearing-impaired children attend school, they often increase the multiplicity of their verbal language worlds. The mode of communication used at home may differ from the modality used within the classroom. The mode of communication used in the classroom may differ from the modality which dominates peer group play. An individual child might experience any and all of these verbal language worlds, going back and forth between them, within the course of daily interaction. Consequently, it is not uncommon for the profoundly deaf child to navigate among multiple, diverse, and varying verbal language worlds.

There are, then, dramatic differences between the verbal language worlds of profoundly deaf children and the spoken language worlds of hearing children. Consequently, while most 5-year-old children can be considered linguistically proficient, most profoundly deaf children of this age are still acquiring a fundamental language base with which to signify and internalize early childhood experiences and interactions (Kampfe & Turecheck, 1987; Moores, 1982; Quigley & King, 1985).

The Literacy Achievements of the Deaf

The body of literature describing the literacy achievements of the deaf has consistently demonstrated that deaf individuals have significantly lower reading achievement scores than do their hearing peers, the average reading ability traditionally being about a fourth-grade level (Babbini & Quigley, 1970; Furth, 1966; Gentile & DiFrancesca, 1969; Hammermeister, 1971; Quigley & Kretschmer, 1982; Trybus & Karchmer, 1977; Wolk & Allen, 1984). Embracing the tenets of the reading readiness perspective, particularly the belief that spoken language precedes and is prerequisite to written language development, educators of the deaf generally assumed that deaf students' lower reading achievement was due to their early language deprivation (Brasel & Quigley, 1975; Furth, 1966; Hart, 1978). In an effort to change these low levels of literacy, the central mission of early childhood educators of young deaf children has been the support and development of the children's first language (cf. Luetke-Stahlman & Luckner, 1991), and this was the case for the three children who participated in this study.

The Case Study Children: Sue, Andrew, and John²

Sue, Andrew, and John attended an early intervention preschool for hearing-impaired children that focused on supporting the children's acquisition of language, be it spoken or signed, as a prerequisite to literacy learning. The preschool was divided into three levels, Preschool I, Preschool II, and Kindergarten, and children were placed according to age and mode of communication, that is, either oral/aural English or total communication³. Sue (age 3.11), Andrew (age 5.0) and John (age 5.10) were

² Key informants chose their own pseudonyms or asked the researcher to do so.

³ In the oral/aural instructional approach, children receive language input through speechreading (lipreading) and amplification of sound. Teachers and children express themselves through speech. Most often, gestures and signs are prohibited (Moores, 1982). Children are taught to speechread and to rely on their residual hearing (use of audition) to understand the communication of others. In 1976, the Conference of Executives of American Schools

chosen to participate as case studies because they each had profound hearing losses, they had hearing parents, there was some difference in their socio-economic status, and their verbal language worlds reflected the multiplicity, diversity, and variability typically experienced by profoundly deaf children.

Data Collection and Analysis

To investigate the children's verbal language and literacy worlds, I employed an ethnographic orientation to data collection and analysis. Through naturalistic observations and interviews in the children's homes and preschool classrooms, and through the use of two informal literacy assessments (Clay's Diagnostic Survey, 1979; The Literacy Tasks of Harste, Woodward & Burke, 1981), I explored the children's (1) experiences with, (2) participation in, (3) uses of, (4) and knowledge and understandings of verbal language and written language. Data sources included videotapes, audio tapes, photographs, the children's writing samples, field notes, the results of the informal assessments, and informative documents from the preschool. These data were collected over a six month period and were analyzed using grounded theory procedures (Strauss & Corbin, 1990) and the semantic relationships of Spradley's (1980) developmental research sequence.⁴

Data analysis revealed that each child's verbal language world was characterized by a great deal of multiplicity, diversity, and variability, and the three children's verbal language worlds were dramatically different from one another. Each child's written language world, however, was characterized by patterns of consistency, and the three children's experiences with literacy were strikingly similar despite the dramatic differences among their verbal language worlds. Furthermore, the children's written language worlds were remarkably similar to those of hearing children documented in the current literature on early literacy development. This is especially noteworthy, given the dramatic differences between their experiences with spoken language.

In the remainder of this paper, I will highlight the divergence in the children's verbal language worlds and the convergence in their written language worlds, and I will suggest implications of these findings for both developmental theory and educational practice.

Divergence in the Children's Verbal Language Worlds

Sue's Verbal Language World

Sue experienced verbal language in at least four different forms within her home. Her interactions with her mother, her father, her baby sitter, and her grandparents were each very different. Her parents chose the oral/aural English option, but Sue's mother had learned several signs which she frequently

for the Deaf posited the following definition of total communication: "Total communication is a philosophy requiring the incorporation of appropriate aural, manual, and oral modes of communication in order to ensure effective communication with and among hearing-impaired persons" (cited in Gustason & Zawolkow, 1980).

⁴ For detailed descriptions of data collection and analysis, see Williams, 1991.

used as she interacted with Sue. Sue's father, however, rarely signed or gestured when he spoke. He was determined that Sue would be an oral child. Both parents often spoke to Sue in two- and three-word utterances, to make the task of speechreading easier. For example, once when Sue put a small toy in her mouth her mother quickly responded, "No eat!" and her father said, "Take out now!" Sue's baby sitter, on the other hand, interacted with Sue as if she were a hearing child. In contrast both sets of Sue's grandparents primarily gestured when they interacted with Sue, and they did not use their voices.

Sue's language experiences at the preschool were just as diverse. Although she was in an oral/aural class, her preschool I teacher was a proficient signer, and the teacher often inadvertently signed and frequently gestured as she spoke. At recess, Sue played with the total communication children, and consequently she learned a great deal of sign language throughout the course of the investigation. She used these signs with her parents, which, in turn influenced the ways in which they communicated with her. Sue's experiences with verbal language were constantly changing.

Andrew's Verbal Language World

Andrew had two very distinct verbal language worlds. At home, he was in an oral/aural English environment, but at school he was in a total communication environment. There was a sharp division in his experiences. Andrew's mother knew very little sign language. In fact, she had just begun her first sign language course when the study began. Consequently, she communicated with Andrew primarily through spoken English. Andrew had originally been in oral/aural classes at the preschool, but he failed to make satisfactory progress in his acquisition of spoken language, so he was retained in Preschool II, and placed in a total communication class. Andrew's younger brother virtually knew no sign language, and the boys gestured with one another without using their voices.

In contrast, Andrew's Preschool II teacher was an adept signer, and all teacher-directed interactions were in simultaneous communication. When Andrew interacted with his classmates, however, they only signed. They rarely used their voices with one another.

John's Verbal Language World

John's verbal language world was, perhaps, the most diverse. John and his family were all proficient signers. He had an older, profoundly deaf sister, and when she was a small child, John's parents learned sign language. By the time John was born, three years later, his parents were proficient signers, and they interacted with John from the crib, from day one, through simultaneous speech and sign language. Consequently, John learned language naturally, similar to the language learning of a hearing child or a deaf child of deaf parents.

John's parents wanted him to develop intelligible spoken language, so they enrolled him in oral/aural classes at the preschool. Thus, at home John interacted through simultaneous communication, but in his preschool class oral/aural English and speechreading were the primary modalities. Since John

was a proficient signer, however, he often interacted with teachers and children at the preschool who conversed through sign language. Two afternoons a week, John was mainstreamed with hearing children into a regular kindergarten class near his home. Because the children knew that John was profoundly deaf, they did not use their voices when interacting with him; they moved their lips and gestured. Between his home and his two kindergarten classes, it was not uncommon for John to navigate within five or six different verbal language worlds on a given day.

The children's verbal language worlds appeared to be less than conducive to language acquisition. Yet, the children were making sense of these inconsistent experiences, and, although limited, particularly for Sue and Andrew, each child was developing verbal language.

Convergence In the Children's Written Language Worlds

Family Literacy

Unlike their diverse verbal language worlds, the children's experiences with written language were consistent across both home and preschool contexts. The children's family literacy was strikingly similar, despite the dramatic differences in their experiences with verbal language at home. All of the parents engaged their children in reading events on a regular basis. They read to their children, with their children, and/or provided opportunities for their children to independently explore books. The parents often used written language, particularly alphabet books, as a vehicle for speech and language development, particularly in Sue's and Andrew's homes. As the families interacted around books, the parents often asked their children about items and/or events in the stories, eliciting speech and/or monitoring their children's literacy understandings. In turn, the children frequently asked their parents questions about the illustrations and/or the text in books they read.

The children frequently participated in writing events. All of the parents provided materials and opportunities for their children to explore written language. The children colored in coloring books, scribbled and drew pictures, and wrote their names. Sue and John wrote letters to family and friends. All of the children used written language for their own purposes. Once when John invited a few of his friends over to play, he asked his mother how to spell, "Don't never touch," so he could tape this warning on the television.

The children's parents demonstrated a myriad of uses for written language in their daily lives. All three mothers frequently used written language to communicate with their child's preschool teacher. Each family used written language to extend their child's vocabulary and to explain complex or abstract concepts. Each of the parents shared retrospective accounts about interpreting print in the environment for their children, and all three families displayed their children's written work in their homes. Family literacy was more alike than it was different, despite the high degree of diversity among their verbal language worlds.

Furthermore, the types and uses of literacy evident in the children's homes strongly resembled the types and uses of literacy of hearing children and their families documented in the current literature (Heath, 1983; Taylor, 1983; Taylor & Dorsey-Gaines, 1988). Although the profoundly deaf children's verbal language worlds were very different from the hearing children's spoken language worlds, the children's literacy worlds were very similar.

In their recent monograph, Growing up Literate, Taylor and Dorsey-Gaines (1988) built a theoretical frame in which they compared the literate practices of several diverse groups, e.g., the white and black working-class communities (Roadville and Trackton) and the mainstream community (Townspople) of Heath's (1983) investigation of literacy in the Carolina Piedmont; the white middle-class families in Taylor's (1983) investigation of family literacy; and the inner-city families of their own investigation (Taylor & Dorsey-Gaines, 1988) of literacy in urban settings. This comparison revealed similar types and uses of literacy across all families, despite their differences in socio-economic and educational status. When I compared Sue's, Andrew's, and John's family literacy practices to those same groups, many common patterns emerged (see Tables 1 and 2). The types and uses of literacy found in their homes were not unlike those found in the homes of hearing children. Each family demonstrated various instrumental, social-interactional, reinforcement/substitute for oral messages, memory-aid, and educational types and uses of literacy. Family literacy not only crossed the boundaries of socio-economic and educational status but also the differences in verbal language practice and use.

Preschool Literacy

Not only was family literacy alike, Sue's, Andrew's, and John's preschool literacy was also very similar, despite the differences in communication modality within their classrooms. The children's preschool teachers believed that literacy development would only effectively follow language acquisition, and consequently, they devoted their energies to supporting the children's acquisition of language. Throughout the preschool day, the teachers engaged the children in activities designed to "teach language" or promote the children's language development. Interestingly enough, almost every activity integrated the use of written language in some form. Each day, the children participated in language acquisition activities that were, in reality, literacy events. One of the most common activities was the reading of children's picture books. The teachers chose picture books that contained specific vocabulary words they wanted the children to learn, and as they read, they emphasized these lexical items.

The teachers routinely used written language in functional ways throughout the preschool day (e.g., to show ownership, to communicate with the children's parents, to gain information, to organize the children's in-class responsibilities, to present new concepts, to plan preschool activities, etc). Everyday they demonstrated the ways in which reading and writing can be used for both personal and social purposes. As they used written language, they inadvertently or, in some cases, intentionally taught the children various concepts about print. They modeled book-reading behaviors, left to right directionality,

one-to-one correspondence between speech and print, a variety of sense-making strategies, and the mechanical competencies involved in reading and writing.

All three children actively participated during preschool literacy events, except in instances where speechreading became too difficult for Sue or John. They frequently demonstrated engagement with print, and they often made personal connections with the stories their teachers read. They revisited favorite storybooks, using the illustrations and the print to make sense of the text. The children asked questions about written language. Like their family literacy, preschool literacy was notably similar, despite the differences in their communication modality.

Furthermore, the children's experiences with, participation in, and uses of literacy strongly resembled those of hearing children in the preschool literacy studies of Cochran-Smith (1984), Dyson (1981, 1989), and Rowe (1989). Sue's, Andrew's, and John's teachers presented and used literacy in the same ways teachers of hearing children presented and used literacy. Most notable were the similarities in the teachers' functional uses of written language and classroom storyreading events (see Table 3). The teachers in this investigation engaged their students in the same kinds of interactional sequences around books that teachers in Cochran-Smith's investigation had used, that is, "readiness for reading" interactions, which helped to establish and maintain the norms for storyreading behavior; "life-to-text" interactions, which "helped listeners make sense of the events, characters, action, and information" (p. 169); and "text-to-life" interactions, which assisted the children in using the information, themes, or messages in books that were shared. These interactions contributed to the children's literacy development.

Sue, Andrew, and John participated in literacy events and used written language in ways that were similar to the hearing children in Dyson's (1981, 1989) and Rowe's (1989) investigations. Most notable were the similarities in the children's participation in writing events. Like the children in Dyson's investigation, Sue, Andrew, and John used verbal language during writing events to provide information about their text, to monitor, control, or direct text construction, and to interact socially with peers and/or adults. Like the children in Rowe's investigation, they shifted from author to audience stances as they participated in these writing events.

Throughout the investigation, and during the administration of the informal literacy assessments, the children demonstrated considerable knowledge and understandings about written language. They understood that written language has meaning, is used for specific purposes, and can be translated into speech and/or sign language. Because of the differences in their ages, their knowledge was developmentally different, but their understandings were age-appropriate and were remarkably similar to those of hearing children of comparable ages. This finding corroborates that of Rottenberg (1990, p. 191) who found that the hearing-impaired children in her investigation of early literacy "made gains in literacy knowledge comparable to those made by hearing children."

Discussion

The findings reported here clearly challenge the tenets of the reading readiness perspective, particularly the oral language supremacy assumption, that is, the belief that proficiency with spoken language is prerequisite to written language development. None of the profoundly deaf children in this study had acquired a strong spoken language base, and only John had acquired a relatively strong signed language base, yet all three children demonstrated knowledge and understandings of written language and uses for literacy that were developmentally appropriate. These findings suggest that verbal language and written language are parallel forms of the same meaning-based language, and development in one is not dependent upon or subsequent to development in the other. Rather, for Sue, Andrew, and John verbal language acquisition and written language development were occurring concomitantly. The children were becoming literate as they were acquiring verbal language. Reading, writing, and verbal interaction were mutually reinforcing one another in development. These findings are supported by the writings of Vygotsky (1978) who suggests that a child's understanding of written language emerges as a part of his/her entire symbolic repertoire.

This study also points to a distinctiveness between spoken language and written language acquisition. Spoken language and written language are not only parallel forms of the same meaning-based language, they are also *alternative forms*. The children in this investigation were developing understandings of written language apart from the connections that often occur between speech and print. For example, the children did not demonstrate use of letter/sound correspondences, nor did they consistently map spoken English directly onto written language. They appeared to bypass the sound element of English and relate meaning directly to written language. This finding is consistent with contemporary linguistic theory which suggests that English orthography is more closely related to the meaning-based aspects of language than to the sound patterns of speech (see Smith, 1975). While the profoundly deaf children's written language development was related to their experiences with verbal language, in many ways it was different and separate from the children's verbal language worlds. Written language was accessible to the children, and it was consistent in their experience. It was, in fact, the only form of language that was consistent across all contexts. While their verbal language worlds were characterized by multiplicity, diversity, and variability, written language remained constant across home and school settings and within settings at school. Written language was a world in and of itself, its own world to be explored.

The findings of this investigation suggest that there is no one pathway to becoming literate. While proficiency with verbal language is not a prerequisite to written language development, for many hearing children it is an avenue to literacy learning. In this investigation the opposite was true: Knowledge of written language became a pathway to spoken and/or signed language acquisition. The profoundly deaf children's parents and their preschool teachers believed that literacy development would only follow the acquisition of a strong verbal language base, and, consequently, they diligently supported the children's

acquisition of verbal language through children's picture books and other forms of print. Written language was used to "teach" spoken and/or signed language. Consequently, the children often related meaning first to print and then to sign language and/or speech.

For Sue, Andrew, and John there seemed to be some universality in the processes of written language development that crossed the boundaries of verbal language acquisition. Despite the differences between their verbal language worlds, all three children were becoming literate. Moreover, despite the dramatic differences between their verbal language worlds and the spoken language worlds of hearing children, Sue, Andrew, and John demonstrated participation in, uses of, interests in, and knowledge and understandings of literacy that were similar to hearing children of comparable ages. Literacy learning was not dependent upon the children's verbal language acquisition. Further research is needed to examine the notion of a universal tool for making sense of written language. That is, is there some innate disposition, some basic rule of nature, that governs written language development under all circumstances?

The findings of this research have several important implications for developmental theory and practice. It is certainly possible that written language and spoken language are both related and different in ways yet unknown to researchers and educators. One agenda for future research is to more fully explore the nature of these relationships and their impact on children's language and literacy learning. Secondly, this study revealed that literacy learning is not dependent upon proficiency with verbal language. Early childhood classrooms must reflect this knowledge by fully integrating verbal language activities and written language activities throughout the curriculum. Young children should be invited to read and to write on the first day of school and everyday thereafter. Perhaps most importantly, early childhood educators must recognize that there is no one pathway to literacy learning. We must strive to identify young children's individual pathways and create classroom learning environments that support and encourage the children's exploration of written language.

Table 1. Family Literacy in a Comparative Frame: Types and Uses of Reading

Types and Uses of Reading	Group Studied	Examples
<p>Instrumental types and uses of reading for gaining information for scheduling events of daily life, meeting practical needs, dealing with agencies</p>	<p>Shay avenue neighborhood (<u>Growing Up Literate</u>, Taylor & Dorsey-Gaines, 1988)</p> <p>Roadville (<u>Ways with Words</u>, Heath, 1983)</p> <p>Suburban families (<u>Family Literacy</u>, Taylor, 1983)</p> <p>Case study families</p>	<p>Notes left on refrigerator of items to buy at the store; applications for food stamps; phone numbers and addresses in address books</p> <p>Patterns for dressmaking; telephone dials; school messages; notes; labels on products; bills</p> <p>Food coupons in papers and magazines; address books; bills and checks; knitting and dressmaking patterns; notes to oneself and others; lists</p>
<p>Social-interactional types and uses of reading to gain information pertinent to building and maintaining social relationships</p>	<p>Shay avenue neighborhood</p> <p>Trackton (<u>Ways with Words</u>, Heath, 1983)</p> <p>Suburban families</p> <p>Case study families</p>	<p>Notes to oneself and to the children; lists of chores; phone numbers and addresses in address books; appointment books; calendar with reminder notes</p> <p>Letters from friends; greeting cards; storybooks shared with children; notices of local events; births</p> <p>Greeting cards; political flyers; letters; newspaper features; announcements of community meetings</p> <p>Letters from family and friends; greeting cards; notices of school/church events; phone messages</p>
<p>Educational types and uses of reading to fulfill requirements of school courses; to build and maintain career; to discuss educational, political, and social issues</p>	<p>Townspiece (<u>Ways with Words</u>, Heath, 1983)</p> <p>Roadville</p> <p>Case study families</p>	<p>Greeting cards; letters from family/friends; notices of Preschool events; storybooks shared with children</p> <p>News magazines; the Bible; popular novels and nonfiction books; reviews of Broadway plays</p> <p>Advertisements for home shows, movies or musical programs; ball game schedules</p> <p>Books/journal articles on the education of the deaf; textbooks; nonfiction books; computer visuals and printouts; magazines; office paperwork</p>



Table 2. Family Literacy in a Comparative Frame: Types and Uses of Writing

Types and Uses of Writing	Group Studied	Examples
Reinforcement /substitute for oral messages types and uses of writing	Roadville (<i>Ways with Words</i> , Heath, 1983) Townspeople (<i>Ways with Words</i> , Heath, 1983) Shay avenue neighborhood (<i>Growing Up Literate</i> , Taylor & Dorsey-Gaines, 1988) Case study families	Messages left by adults for children coming home before parent; notes for absence from school; assignments following class discussions Notes for tardiness to school; notes left by family members for one another Letters written to teachers regarding homework; messages written to children and other family members Daily/weekly correspondence with Preschool teacher; print used when speech was unintelligible; messages left by one family member to another --- --- --- ---
Social-interactive types and uses of writing	Trackton (<i>Ways with Words</i> , Heath, 1983) Suburban families, (<i>Family Literacy</i> , Taylor, 1983) Shay avenue neighborhood Case study families	Letters to and from children; greeting cards; writing and drawing with young children Letters to family members and friends; cards sent at Christmas, Valentine's Day, and birthdays; writing and drawing with young children Letters to family and friends; greeting cards of all kinds; notes to parents and children; children's writing and drawing Grocery lists; frequently called numbers written in front of phone book; labels in baby books Bathroom schedule for potty-training youngsters Notes on refrigerator; notes written on calendar lists; telephone numbers and addresses
Memory-Aids types and uses of writing	Roadville Shay avenue neighborhood Case study families	



Table 3. Preschool Literacy in a Comparative Frame

Experiences with, Participation in, and Uses for Written Language	Group Studied	Examples
Teachers' uses for written language	<p>Preschool children (Cochran-Smith, 1984)</p> <p>Case study children's teachers</p>	<p>To communicate with parents; to gain information; to organize and present information efficiently; to clarify the status of material items</p> <p>To communicate with parents; to gain information; to assist in learning new information/concepts/skills; to indicate ownership; to teach language/extend vocabulary; to organize activities and responsibilities</p>
Teachers' storybook readings	<p>Preschool children (Cochran-Smith, 1984)</p> <p>Case study children's teachers</p>	<p>Teachers engaged the children in "readiness for reading" interactions, "life-to-text" interactions, and "text-to-life" interactions. Teachers annotated the storybook text.</p> <p>Teachers engaged the children in "readiness for reading" interactions, "life-to-text" interactions, and "text-to-life" interactions. Teachers either revised the text or read the text almost verbatim and added clarifying remarks.</p>
Children's uses of oral or verbal language	<p>Kindergarten children (Dyson, 1981, 1989)</p> <p>Case study children</p>	<p>To give information about events or situations (representational language); to monitor, plan, encode (directive language); to maintain social relationships</p> <p>As a self-monitoring strategy to direct their writing; to control or direct text construction (planning strategy); to verbally label drawings and writing (representational language); to interact with adults and peers around print (interactional language)</p>
Children's participation as authors/ audience during the writing process	<p>Preschool children (Rowe, 1989)</p> <p>Case study children</p>	<p>As authors, children asked for assistance; As audience, they challenged others' literacy knowledge</p> <p>As authors, the children requested assistance from adults and/or peers; As audience, they evaluated their own as well as peers' and/or adults' writing; they shifted from author to audience stances</p>

BIBLIOGRAPHY

- Allen, N. (1975). What is said and what is signed: The relationship between English and four modes of signing English. Master's thesis, University of Southern California, Los Angeles.
- Anderson, A. & Stokes, S. (1984). Social and institutional influences on the development and practice of literacy. In Goelman, H., Oberg, A., & Smith, F., (Eds.), Awakening to Literacy. Portsmouth, NH: Heinemann.
- Babbini, B. E., & Quigley, S. P. (1970). A study of the growth patterns in language communication and educational achievement in six residential schools for deaf students. Urbana-Champaign: University of Illinois, Institute for Research on Exceptional Children.
- Bellugi, U. (1988). The acquisition of a spatial language. In F. Kessel, (Ed.), The development of language and language researchers: Essays in honor of Roger Brown. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Bellugi, U. & Klima, E. S. (1972). The roots of language in the sign talk of the deaf. Psychology Today. 76, 61-64.
- Brasel, K. & Quigley, S. (1975). The influence of early language and communication environments on the development of language in deaf children. Urbana-Champaign: University of Illinois, Institute for Research on Exceptional Children.
- Clay, M. M. (1967). The reading behavior of five-year-old children: A research report. New Zealand Journal of Educational Studies. 2, 11-31.
- Clay, M. M. (1979). The early detection of reading difficulties. Auckland, New Zealand: Heinemann.
- Cochran-Smith, M. (1984). The making of a reader. Norwood, NJ: Ablex.
- Dyson, A. H. (1981). A case study examination of the role of oral language in the writing process of kindergarteners. Doctoral dissertation, The University of Texas, Austin.
- Dyson, A. H. (1989). Multiple worlds of child writers: Friends learning to write. New York: Teachers College Press.
- Ferreiro, E. (1984). The underlying logic of literacy development. In H. Goelman, A. Oberg, & F. Smith (Eds.), Awakening to literacy. Portsmouth, New Hampshire: Heinemann.
- Ferreiro, E. (1985). Literacy development: a psychogenetic perspective. In D. Olson, N. Torrence, & A. Hildyard (Eds.), Literacy, language, and learning. Portsmouth, NH: Heinemann.
- Furth, H. G. (1966). A comparison of reading test norms of deaf and hearing children. American Annals of the Deaf. 111, 461-462.
- Gentile, A. & DiFrancesca, S. (1969). American achievement test performance of hearing-impaired students (Report Number 1, Series D). Washington, D. C.: Gallaudet College, Office of Demographic Studies.
- Goodman, Y. (1984). The development of initial literacy. In H. Goelmann, A. Oberg, & F. Smith (Eds.), Awakening to literacy. Portsmouth, New Hampshire: Heinemann.
- Goodman, Y. (1986). Children coming to know literacy. In W. Teale & E. Sulzby (Eds.), Emergent literacy. Norwood, NJ: Ablex.
- Gustason, G., Pfetzing, D. & Zawolkow, E. (1980). Signing Exact English. Los Alamitos, California: Modern Signs Press, Inc.
- Hammermeister, F. (1971). Reading achievement in deaf adults. American Annals of the Deaf. 116, 25-28.

- Harste, J., Burke, C., Woodward, V. (1981). Children, their language and world: Initial encounters with print. ERIC document: ED213041, U. S. Department of Education.
- Harste, J., Woodward, V., & Burke, C. (1984). Language stories and literacy lessons. Portsmouth, NH: Heinemann.
- Hart, B. (1978). Teaching reading to deaf children. Washington, D. C.: A. G. Bell Association for the Deaf.
- Haath, S. B. (1983). Ways with words: language, life, and work in communities and classrooms. Cambridge, MA: Cambridge University Press.
- Hoffmeister, R. (1982). The acquisition of sign language by deaf children: A review. In H. Hoeman and R. Wilbur (Eds.), Communication in two societies. Monographs and Social Aspects of Deafness, Washington, DC: Gallaudet College.
- Kampfe, C. M. & Turecheck, A. G. (1987). Reading achievement of prelingually deaf students and its relationship to parental method of communication: A review of the literature. American Annals of the Deaf. 132(1), 11-15.
- Kantor, R. (1982). Communicative Interaction: Mother Modification and Child Acquisition of American Sign Language. Sign Language Studies. 36, 233-282.
- Liddell, S. (1980). American sign language syntax. The Hague: Mouton.
- Luetke-Stahlman, B. & Luckner, J. (1991). Effectively educating students with hearing impairments. New York: Longman.
- Martin, F. N. (1986). Introduction to audiology. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- McGee, L. & Richgels, D. (1990). Literacy's beginnings: Supporting young readers and writers. Boston: Allyn and Bacon.
- Meadow, K. (1968). Early manual communication in relation to the deaf child's intellectual, social, and communicative functioning. American Annals of the Deaf. 113, 29-41.
- Meadow, K. (1981). Deafness and child development. Berkley: University of California Press.
- Moore, D. F. (1982). Educating the deaf: Psychology, principles, and practices. (2nd ed.), Boston: Houghton Mifflin Company.
- Morrow, L. M. (1989). Literacy development in the early years. Englewood Cliffs, NJ: Prentice Hall.
- Nelson, K. (1985). Making sense: The acquisition of shared meaning. New York: Academic Press, Inc.
- Quigley, S. & King, C. (1985). Reading and deafness. San Diego, California: College-Hill Press, Inc.
- Quigley, S. & Kretschmer, R. (1982). The education of deaf children. Baltimore: University Park Press.
- Rottenberg, C. (1991). Literacy learning is important work: Emergent literacy of preschool hearing-impaired children. Doctoral Dissertation. Arizona State University.
- Rowe, D. W. (1989). Author/audience interaction in the preschool: The role of social interaction in literacy lessons. Journal of Reading Behavior. 21(4), 311-349.
- Siple, P. (1982). Signed language and linguistic theory. In L. Obler & L. Menn (Eds.), Exceptional language and linguistics. New York: Academic Press.
- Smith, F. (1975). The relation between spoken and written language. In E. Lenneberg & E. Lenneberg, (Eds.), The foundations of language development. Vol. 2, pp. 347- 360.

- Snow, C. & Ninio, A. (1986). The contracts of literacy: What children learn from learning to read books. In W. Teale & E. Sulzby (Eds.), Emergent literacy (pp. 116-138), Norwood, NJ: Ablex Press.
- Spradley, J. P. (1980). Participant observation. New York: Holt, Rinehart, & Winston.
- Strauss, A. & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, California: Sage Publications.
- Taylor, D. (1983). Family literacy: Young children learning to read and write. Portsmouth, NH: Heinemann.
- Taylor, D. & Dorsey-Gaines, C. (1988). Growing up literate: Learning from inner-city families. Portsmouth, NH: Heinemann.
- Teale, W. H. & Sulzby, E. (1986). Emergent literacy as a perspective for examining how young children become writers and readers. In W. H. Teale & E. Sulzby (Eds.), Emergent literacy. Norwood, NJ: Ablex Press.
- Trybus, R., & Karchmer, M. (1977). School achievement scores of hearing impaired children: National data on achievement status and growth patterns. American Annals of the Deaf, Directory of Programs and Services, 122, 62-69.
- Vygotsky, L. S. (1978). Mind in society. Cambridge, MA: Harvard University Press.
- Wolk, S. & Allen, T. E. (1984). A 5-year follow-up of reading-comprehension achievement of hearing-impaired students in special education programs. Journal of Special Education, 18, 161-176.
- Wells, G. (1986). The meaning makers: Children learning language and using language to learn. Portsmouth, NH: Heinemann.
- Wilbur, R. (1970). American Sign Language and sign systems. Baltimore: University Park Press.
- Williams, C. L. (1991). The verbal language worlds and early childhood literacy development of three profoundly deaf preschool children. Doctoral dissertation. The Ohio State University.