Sign to learn: sign language as a teaching tool in hearing classrooms

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Sign to learn: sign language as a teaching tool in hearing classrooms

Abstract
This project examines using sign language as a multisensory learning tool in hearing classrooms. Included is a brief history of sign language in the United States as well as a review of different types of sign language. This project provides a rationale for incorporating sign language into the hearing classroom by examining the relationship between sign and gains in literacy achievement. The primary goal of using sign language in the classroom is for students to become better readers, writers, and spellers. This will be accomplished by teaching students to fingerspell and sign sight words. Research detailing use of sign in hearing classrooms, sight word acquisition, and learning styles is reviewed. Ideas for implementation of signing in a first grade classroom, a timeline, and recommendations are provided.

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Sign to Learn:
Sign Language as a Teaching Tool in Hearing Classrooms

A Graduate Project
Submitted to the
Department of Curriculum and Instruction
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Education
With a Major in Early Childhood Education
UNIVERSITY OF NORTHERN IOWA

by
Angela M. Schneden
July, 2006
This project by: Angela M. Schneden

Titled: Sign to Learn: Sign Language as a Teaching Tool in Hearing Classrooms

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Degree of Master of Arts in Education
With a Major in Early Childhood Education

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CHAPTER ONE
INTRODUCTION

Teaching is not an easy process. Each year teachers find themselves with students who have various skills, experiences, maturities, and abilities together in one classroom. Students bring with them a multitude of knowledge that varies tremendously. This is particularly visible in the relationship to children's emerging literacy development. For example, teachers in early childhood settings are challenged to engage students with abilities that range from knowing how to read to those who have never seen a letter or book on the first day of school.

Literacy development is a primary focus of early childhood educational programs. Literacy, according to Burns, Griffin, & Snow (1999), is "reading, writing, and the creative and analytical acts involved in producing and comprehending texts" (p. 149). In order to be literate one must be able to read and write. Early childhood teachers use various methods to facilitate students learning to read and write. Whether using teacher read aloud, shared reading or writing, guided reading, peer tutoring, the Six Traits of Writing, writers' workshop, or any number of other approaches, the teacher's focus is on creating young readers and writers.

Nationally, much attention has been given to children's ability to attain basic reading and writing skills, and with good reason. According to the National Institute of Child Health and Human Development (2000), children who do not gain the necessary reading skills that will enable them to be successful throughout life may suffer long term-consequences. Consequences for children who do not develop into successful readers include lack of motivation and self-confidence to learn. As a
result, policymakers enacted federal legislation to ensure that our Nation's children gain fundamental skills in reading and writing. *No Child Left Behind* (2002) and *Reading First* (2002) are the result of policymakers concerns.

With today's increased emphasis on literacy, teachers are looking for ways to engage all learners. One research-based approach (Daniels, 1994, 1996, 1997, 2001, 2003, 2004) that has found success is the implementation of sign language instruction in the hearing classroom. This approach incorporates a multisensory learning method that captures learners' attention. This paper begins with background information on sign language, followed by a rationale for implementing sign language in general education classrooms, and concludes with a model for using sign language as a teaching tool for increasing children's literacy development in a hearing first grade classroom.

*History of Sign Language*

The use of sign language appeared before the Renaissance in communities of Benedictine monks. Even the use of sign language with the hearing dates back to 1853 when David Bartlett (as cited in Daniels, 2001) used sign language in a school for families with deaf and hearing children. Bartlett found that while sign language and fingerspelling helped the deaf children to learn English, their hearing siblings benefited as well. This idea was reinforced in the 1860s when Thomas Hopkins Gallaudet (as cited in Daniels, 1996), a pioneer in the education of the deaf in the United States, also suggested that the hearing siblings of the deaf learn and use sign language. Gallaudet was convinced that this would help the deaf child to
communicate with his or her family and, in addition, those hearing siblings who learned to sign would make gains in their language proficiency and vocabulary.

While Gallaudet and Bartlett encouraged the use of sign with hearing populations in the midnineteenth century, there is not a plethora of research available on the subject. While the amount of research on the subject may be limited, the findings unanimously support the use of sign language in hearing classrooms. Daniels (2001) seems to be the overwhelming leader in researching the benefits of sign language use with hearing children. Daniels conducted three studies (Daniels, 1994, 1996, 1997) that built upon each other to examine the long-term effects of sign language use in early childhood classrooms. Others are now beginning to take notice of Daniels’ work and conduct research in area of sign language use with the hearing as well.

As sign language has been used over the years, it has changed, leading to the formation of several different sign languages. In the same way that spoken languages have their own unique characteristics, each signed language has characteristics that distinguish it from other signed languages. In the following section different types of sign languages will be described.

**Types of Sign Language Used in the United States**

Several different types of sign language are used in the United States. They include American Sign Language (ASL), Signing Exact English (SEE II), Seeing Exact English (SEE I), Pidgin Sign(ed) English (PSE), Conceptually Accurate Signed English (CASE), Linguistics of Visual English (LOVE), and the Rochester method to name a few. With so many varieties, it may seem overwhelming to try to determine
which method of sign best fits the needs of students. Of all of the sign languages used in the United States, the only one that is recognized as a language is ASL. Other sign languages are often generally referred to as Signed English, as they follow English word order. The following are general descriptions of each type of sign language.

**ASL.** This is the official language of the deaf community in the United States (Daniels, 2001). It developed independently from English and has its own structure, syntax, and rules. ASL is an iconic language meaning that many of the signs utilized in ASL look like the English words and actions they represent. ASL’s use of syntax makes it unique when comparing it to other signed languages used in the United States. In ASL word order is typically object-subject-verb, whereas in spoken English the typical word order is subject-verb-object. For example, in spoken English we might say, “I live in a big white house with green shutters. In ASL the same idea would be signed: HOUSE WHITE BIG SHUTTERS GREEN LIVE” (Daniels, 2003, p. 65). ASL also incorporates movements of the eyes, mouth, face, hand, and body posture as part of the language; these non-manual movements can serve to indicate tone or punctuation. Another aspect of ASL is that different non-manual movements, such as a frown or hand position, can change the meaning of a sign.

**Seeing Essential English (SEE I).** This sign language is similar to ASL in that many signs are the same, however SEE I follows English word order. A founding principle of SEE I is one word, one sign, no matter what the context (Luetke-Stahlman and Milburn, 1996). In SEE I all compound words are signed separately and the same signs are used for homonyms. SEE I also differs from ASL in that word
endings, such as -ing, and articles, such as the, have signs (Wikipedia contributors, 2005).

**Signing Exact English (SEE II).** SEE II was developed when nonnegotiable differences between committee members at SEE I and the organization split into two groups. The main differences between SEE II and SEE I are that in SEE II each English word is signed differently, compound words utilize the ASL equivalent, if there is one, and those words that do not have a sign are fingerspelled (Luetke-Stahlman and Milburn, 1996). ASL is a foundation for SEE II, as 75 to 80% of SEE II’s signs are taken from or very similar to ASL signs.

**Pidgin Signed English (PSE).** PSE is the most commonly used sign language of adults who are learning to sign. PSE is a lingual bridge between English and ASL as it maintains English word order but drops many grammatical markers and initializations. PSE follows a flexible mix of English grammar and ASL rules. PSE often looks different between users; this is a result of the users knowledge of ASL and English (Wikipedia contributors, 2005).

**Conceptually Accurate Signed English (CASE).** CASE combines the usage of concepts, as does ASL, with English word order. It is sometimes referred to as Sign Supported English (SSE). It is quickly becoming one of the more common sign languages used in the United States (Wikipedia contributors, 2005).

**Linguistics of Visual English (LOVE).** This approach is very similar to SEE I in its construction and use of sign, however, differs from ASL and other Signed English systems in that it has its own notation system (Wikipedia contributors, 2005).
**The Rochester Method.** This method of communication, which most closely mirrors written English, is a sign language in which all words are fingerspelled. Because fingerspelling every word is incredibly time consuming, this language is rarely used except with deaf and blind populations (Wikipedia contributors, 2005).

During the course of this project, I will utilize PSE and SEE II. I have chosen to use these languages as I wish to maintain English word order, and I do not believe at any time over the course of the school year I will sign all words. I will refer to my approach as Signed English.

**Definition of Terms**

*Auditory Mode of Learning:* Learning mode that relies on hearing; auditory learners learn best through talking, listening, and discussing (Advanogy.com, 2003)

*Fingerspell:* “one handed letter-by-letter representation of every letter in the English alphabet” (Daniels, 2001, p. 145)

*Kinesthetic Mode of Learning:* Learning mode that relies on doing; kinesthetic learners learn best through touch, action, movement, and hands-on activities (Advanogy.com, 2003)

*Sight words:* Words that good readers recognize without having to take time to figure them out (May, 1998)

*Visual Mode of Learning:* Learning mode that relies heavily on seeing information; visual learners learn best by using images, pictures, and color (Advanogy.com, 2003)
Voice-off Times: Times when communicating with voices is not allowed

(Daniels, 2003)

Overview of Project

This project was developed from my desire to expand sign language use into my first grade classroom. In the past my students have learned signs for yes, no, toilet, drink, stop, and sit. The level of excitement that the students displayed over this new form of communication prompted me to buy a sign language dictionary for the class, and my students’ eager little hands have used the sign language dictionary continuously since that point. Since I found this form of communication motivating for students, I wondered if other teachers used sign language in their hearing classrooms. This question led me to countless hours of research and reading and culminated with this project.

Sign language is not a stand alone or replacement teaching strategy for the hearing classroom. Implementation of Signed English is meant to supplement teaching strategies that are already in place in the classroom. For example, Sign can be used in a balanced literacy approach by having students spell words through Sign during interactive writing; it could also be utilized during guided reading to help students stretch out the sounds in words. Sign language gives hearing teachers and hearing students an additional method to transmit thoughts and ideas. Many students need extra reinforcement of ideas and concepts and perhaps sign language can address that need. Sign language provides students the opportunity to see voices and feel words.
Project Description

The primary goal of this project is to introduce first grade students to sign language. Signing will be paired with oral language in this project to communicate simple commands, questions, phrases, and routines within the classroom. Students will learn to use the manual alphabet to reinforce their understanding of the left to right relationship of print, to practice spelling, and to learn sight words. Signs for the Dolch sight words will also be taught in order to give students the opportunity to see their voice and feel words that they will frequently encounter in print as readers.

Sign language and the manual alphabet will gradually be introduced to students as teachable moments arise and opportunities present themselves. At the beginning of the school year, much time is spent making class rules and discussing implementation of those rules. Introducing simple signs for words such as walk, sit, yes, no, stop, please, and thank you would naturally fit into the curriculum at this time. During the first weeks of school, time is also spent reviewing the alphabet with stories and songs such as Chicka Chicka Boom Boom (Martin & Archambault, 1989), The Gunnywolf (Delany, 1992), Alphardy (Feldman, 2000), Lettercise (Feldman, 2001), and many others. Activities such as these present opportunities to introduce the manual alphabet to students, which gives the alphabet a new dimension.

As the year progresses students will be introduced to sight words and signs for those words. As part of this project, I am modifying sight words books that we currently use in our classroom, and I will augment a student-writing dictionary to include signs as well. By using signs within the classroom, students are engaged in
the kinesthetic mode of learning; whereas, previously, learning sounds and words primarily engaged only the auditory and visual modes of learning.

Purpose

Overall, the primary goal of using sign language in the classroom is for students to become better readers, writers, and spellers. This will be accomplished by teaching students to fingerspell and sign sight words. Sight words are the building blocks of reading; the more sight words a child is able to read the fewer times that child is forced to stop to figure out a word. When students fingerspell a word they reinforce the letters and letter-sound combinations within the word, which helps them develop into proficient spellers. Signing the words will add a kinesthetic aspect to learning to read and will allow students to feel words.

Goals for myself, as a teacher, include improving student on-task time, engaging students in a variety of learning strategies, and improving my classroom management. Sign language will provide an additional mode of learning that was previously not available to my students. By engaging students in sign language through giving directions and, in some instances, partial instruction, students will have the opportunity to learn through sound, sight, and as they sign back, touch. In addition, as students learn signs they will be able ask questions such as, can I go to the bathroom?, without distracting other learners. Fewer distractions in the classroom and more students who remain actively engaged in their learning will lead to improved classroom management.

This project is also important because it may lead to improved literacy ability for children in my classroom. In this time of No Child Left Behind (2002), it is vital
that we reach all learners by using multiple instructional strategies and differentiating our instruction to meet our students’ needs. Sign language may be used as an additional teaching strategy to motivate students and provide new opportunities for learning. Sign language supplements teaching strategies already being used and is one more tool in reaching all learners.

An additional anticipated outcome of this project is that students will also learn about diversity. Our communities are becoming increasingly diverse; learning sign language will lead students to a greater understanding of people who communicate through different languages. Students will learn that people throughout the world use different languages to communicate and that even people within their own community use a variety of languages. Discussing diversity among signers is also important. Learners should know that not all signers are deaf, and that many people learn sign language for different reasons. Introducing students to historical figures such as Helen Keller and members of their community who sign will help students understand that sign language occurs beyond their classroom doors.

Students will have opportunities throughout this project to practice signing as the year progresses during voice-off times. Voice-off times (times when speaking with voices is not allowed) will allow students to experience, if only for a short time, the world of the deaf and those who sign. The goal of voice-off time is to engage students to practice the signs they have learned and communicate with a partner using their voice minimally. If students learn enough sign language through this project to carry on a conversation with each other nonverbally it would be wonderful, however it is not a goal of this project.
Project Rationale

The rationale behind using sign language in the classroom is to increase students' level of literacy. Research findings from a study conducted by Daniels (1994) indicated that students who are exposed to sign language along with traditional teaching methods are better able to recognize the alphabet, produce letter sounds, recognize sight words, use more expressive language, and have more highly developed language skills than typical peers. I believe that if students are able to recognize sight words in a generalized setting, this will also lead to increased oral reading fluency and comprehension as students will spend less time decoding words.

Some researchers (Churchill, Durdel, & Kenney, 1998) believed that students may learn through a variety of modalities. In a study conducted by Churchill, et al. (1998) 30 percent of students were found to learn visually, 25 percent learned through auditory means, 15 percent learned kinesthetically, and the remaining 30 percent of learners gained understanding of concepts through a combination of these modes. These findings suggest that teaching that occurs via multisensory modes will reach more learners.

Sign language works as a multisensory teaching tool that may possibly reach more learners than traditional teaching methods alone. According to Daniels (2001) as students produce signs, they are anchoring words into their mind with concrete images. Long ago Aristotle stated, "the soul never thinks without a picture" (cited in Daniels, 2001, p. 127); sign language helps learners to create that picture and in turn think.
Sign language is set apart from all spoken languages because of the way it is processed in the brain. Although sign language, a visual gestural language, is acquired in much the same way that spoken language is acquired. Daniels (2001) says that the difference lies in the visual-spatial nature of sign. The visual aspect of sign triggers more involvement of the right hemisphere of the brain as it perceives and processes sign language. Sign language is received by the right hemisphere of the brain and then processed by the left hemisphere. As both hemispheres of the brain work together to decode sign, a series of synaptic connections form within the brain. If sign language and English are used together, Daniels (2001) asserted that a more resonant base for language will be formed for brain development and growth. The synaptic connections that are formed are strengthened the more often they are used, and as a natural part of the brain’s development if they are not used they die away (Wolfe, n.d.). Thus, in order for the synaptic connections to thrive they must be engaged; sign provides an excellent medium for this engagement. According to researchers Goggin and Wickens (1971), people who were equally fluent in English and Spanish had separate language stores within the left hemisphere of their brain for each language. In 1990, Hoemann and Koenig (1990) built upon Googin and Wickens earlier research. They concluded that when people fluent in English learned American Sign Language (ASL) as a second language they stored their knowledge of ASL in a separate area of the brain. This conclusion verifies that English and the written alphabet are stored separately from ASL and the manual alphabet in the brain. As sign language and English are stored in separate areas of the brain, students who
learn sign have two places to look for information when they try to answer a question or read a word.

Using sign language in the classroom increases brain activity as the left and right hemispheres interact; it engages students in multisensory learning; and it creates a second source of language for students to access, as well as anchoring words with concrete images and meaning in the learner’s mind. These outcomes provide research-based rationales for incorporating sign language use in the hearing classroom.
CHAPTER TWO

METHODOLOGY

This project was designed after careful thought, consideration, and research. Initially, this project began out of my desire to use sign language with my students. In my excitement, I checked out countless sign language books and videos from the local library and AEA. As I became overwhelmed with information, I realized I needed help finding a starting point. Thus, I began my research phase by studying how other teachers had used sign language with hearing students and seeking out studies that had been conducted. I reviewed several studies by Daniels (1994, 1996, 1997, 2004) and read Daniels' book *Dancing With Words* (2001). Her research provided me with a foundational knowledge of sign language as I began to plan my project.

The research available on using sign within the hearing classroom is not overly abundant. Findings for the research that has been completed, however, strongly indicates that the use of sign language in hearing classroom is advantageous to the learning environment. This paper reviews the research that has been completed and explains how sign language can be used in a hearing classroom of first grade students.

Review of Literature

The research reviewed for this project presents information in three areas that impact the use of sign language within hearing classrooms. The first area reviewed is the use of sign language within hearing classrooms and its effect on learning. The second area regards how the use of multisensory learning strategies influence student
learning. Since one of the main ways that students will be introduced to signs in this project is by learning signs for sight words, the final body of research that is presented discusses different strategies that can be utilized for teaching students sight words.

*Using Sign Language in the Classroom*

The sign language research reviewed here presents information supporting the hypothesis that the use of sign language in hearing classrooms is advantageous to student learning. Research against using sign language within a hearing classroom was not located. The research findings support the belief that the use of sign language in early childhood classrooms is beneficial to students in many ways. By teaching students sign language teachers are exposing students to a potentially new form of language, and they are helping them increase vocabulary and reading ability that may lead to increased academic achievement.

Research synthesized by Snow, Burns, & Griffin (1998) reports that receptive vocabulary scores for students in kindergarten have a correlation ($r=.36$) with reading scores in the first three grades. The researchers also reviewed studies in which students' ability to name objects in pictures, was positively correlated ($r=.45$) to students' future reading success. The review of research (Snow, et. al.) indicates that developing students' vocabularies provides favorable conditions for increased reading abilities in the future.

Use of sign language in preschool classrooms has also been correlated with improved vocabulary development of hearing children. Daniels (1994) examined the effect of teachers using sign language to teach 60 students in four hearing preschool
classrooms. In this study, two classrooms received the treatment condition and two classrooms served as the control group. Within this study, teachers used sign language to emphasize spoken words and commands and requests. Sign language was used alone approximately one quarter of the time, English was used alone approximately one quarter of the time, and a combination of both was used approximately one half the time. As the students became active participants in their learning, through sign language, their receptive vocabulary increased. According to post-test data, students who learned through sign language and English made dramatic gains in their receptive vocabulary in comparison with peers who did not receive sign language instruction. "A two-way analysis of variance indicated that the main effect of signing was statistically significant, $F(1,56) = 22.06, p < .001$" (p. 296).

In an effort to determine if the gains made by students in the 1994 study were maintained over time, Daniels compared the same group of students at the conclusion of their kindergarten year (1996). After students graduated from preschool they were no longer taught using a combination of sign language and English, they were taught only through English. Study findings demonstrated that the students who learned in preschool through a combination of sign language and English had "no decay over time and the benefit resulting from the signing treatment had been maintained" (Daniels, 1996, Results ¶ 2). The differences in their scores at the end of their preschool and kindergarten years were not found to be statistically significant after adjustments for time had been made. Thus, hearing students who received instruction through a combination of English and sign language in preschool, not only made significant gains in their receptive vocabulary scores when compared to typically
instructed peers at the conclusion of preschool (Daniels, 1994); they maintained the
gains made over peers through their kindergarten year (Daniels, 1996).

Daniels (2004) studied the impact of using sign language with
kindergarteners to determine if sign language positively impacted children's receptive
vocabulary and reading placement scores. In this study, the teacher used ASL syntax
for classroom instruction and used English word order for reading instruction.
Reading instruction primarily took place through guided reading groups. During
reading instruction, the teacher introduced vocabulary words by showing the words in
print and teaching students the ASL sign. Using hand placement the teacher taught
students the different letter names and sounds. When teaching students letter names
the manual alphabet letter was shown at the chest, when teaching consonant sounds
the hand was brought to the ear, vowel sounds were created using both hands brought
to the ear, and silent letters were represented by showing the manual alphabet letter
and then covering it with the opposite hand. The researcher utilized a pretest and
posttest from the Peabody Picture Vocabulary Test Third Edition (Dunn & Dunn,
1997), to assess vocabulary gains made by students. The students in the treatment
group made gains of two full years in their receptive vocabulary growth in nine
months; this high rate of growth made could not be due to maturation. A directional
paired t test demonstrated that a significant increase was made between the pretest
and posttest (t(20) = 8.46, p<.001). Using the Reading Recovery Observation Survey
(Clay, 1993) the treatment class also scored significantly higher (t(16) = 3.55,
p<.001) than the non-treatment class. In addition, the treatment class showed a
significantly higher score ($t(16) = 1.89, p<.05$) on the RROS Word Test when compared to peers in the non-treatment group.

The findings by Daniels (1994, 1996, 2004) support T.H. Gallaudet’s theory that “language would be acquired more perfectly by hearing children through a combination of sign language and oral English and that knowledge gained in this manner would be retained longer” (as cited in Daniels, 1996, Discussion ¶ 2). Acquiring language more perfectly through sign language has been shown to have a positive impact on student learning.

It is important to point out that students’ gains in receptive vocabulary and reading appear to be independent of the teacher’s level of mastery of sign language. In 1997, Daniels focused on a “teacher’s ability to instruct in sign and incorporate sign language in preschool curriculum” (Daniels, 1997, p. 30). The study examined the relationship between students’ outcomes and a teachers’ signing competence. At the start of this study, the teacher had not previously signed and relied on books, videos, sign language classes, and peers to learn sign language and incorporate sign into her classroom. The study was conducted over three years and each year students made significant gains in their receptive vocabulary scores. While gains made over the course of each year were significant ($p<.05$, $p<.001$, & $p<.001$) students in year two gained more than students in year one, and students in year three gained more than students in year two. Therefore, a strong positive correlation ($r=.96$) was found between students’ scores, and the teacher’s signing experience (Daniels, 1997).

The research findings presented above support the hypothesis that using sign language in combination with English when instructing hearing students has a
positive impact (Daniels, 1994, 1996, 1997, 2004). Furthermore, while a teacher does not need to have experience with sign language to positively affect student learning, experience does influence the rate of student achievement (Daniels, 1997). The reviewed research supports the implementation of sign language in the hearing classroom. The use of sign language in the hearing classroom engages students in multisensory learning. The research that follows addresses meeting the needs of students through multisensory learning strategies.

**Learning Styles**

The following research studies examined what effects using multisensory learning techniques had on student learning in the classroom. Findings from research provides evidence that using multisensory learning techniques has a positive effect on the learning outcomes of students (Churchill, Durdel, and Kenny, 1998; O'Dea, 1998). Multisensory learning techniques are techniques that help learners by providing experiences to meet diverse learning styles. Learning styles include auditory, kinesthetic, visual, and tactile. Each of these learning styles is met by the use of sign language in the hearing classroom. Sign is a visual language in that users view the signs and can read words in print and then make the corresponding sign. It is tactile and kinesthetic as users can “feel” letters and words as they move their hands. The use of sign in the hearing classroom is also auditory in nature because the users will speak the words they sign.

Multisensory learning employs methods that will reach all learners. In research conducted with 12 pre-kindergarteners, 10 kindergarten special education students, and 18 at-risk first graders Churchill, Durdel, and Kenny (1998) used
various instructional strategies to reach all learners. The students involved in the research study received explicit instruction in sound awareness, participated in activities that met their various learning styles, and were engaged in activities that emphasized print awareness. Charts, graphic organizers, word lists, pictures, and alphabet cards were utilized to meet the needs of visual learners. Rhyming, recorded stories, and bombardment words were provided for auditory learners. To best meet the needs of kinesthetic learners Churchill, et al. utilized hand signals to “provide additional sensory input so that children can encode and retrieve sound letter associations more readily” (p. 32).

The researchers found that at the end of the study participants were able to demonstrate age appropriate, or above, readiness skills. The kindergarten students involved in the study all demonstrated improved phonemic awareness skills after the intervention, and all first grade students involved in the study showed increased sound identification. These improvements also led to improved achievement in word recognition, decoding, and spelling skills. The researchers felt that the key to intervention was addressing the various learning styles of participants. They felt the “kinesthetic activities, especially the hand signals, provided students an additional way to process information. Students were observed in the first grade classroom spontaneously using hand signals as they decoding and wrote spelling words” (Churchill, et al., 1998, p. 49-50).

O’Dea found similar results in a 1998 study that utilized multisensory learning techniques. Research focused on improving a group of 23 learning disabled high school students’ prerequisite reading skills by using a multisensory program called
Auditory Discrimination in Depth (Lindamood & Lindamood, 1975), that concentrates on teaching students to integrate sensory feedback from the eye, ear, and mouth. Auditory Discrimination in Depth uses intensive phonics instruction, helps students to hear and feel sounds and letters, and works by meeting students' individual learning styles. Through this program, "students were taught to integrate feedback from the eye, ear, and mouth to develop a cross-checking system so they could verify and self-correct responses" (pp. 28-29). This multi-modal approach works in a similar manner to how sign language works in conjunction with English in the hearing classroom. Students who sign and use spoken English see letters or hand signals as they hear the sounds or words that are spoken, in effect they cross-checking their responses.

The effects of using Auditory Discrimination in Depth were measured through a pretest and a posttest. The testing instrument used was the Kaufman Test of Educational Achievement Subtest Two: Reading Decoding and Subtest Four: Reading Comprehension (Kaufman, 1985). The tests showed that in the area of comprehension participants average growth rate was 1.0 years in 18 weeks of instruction and in the area of decoding participants average growth rate was 0.64 years in 18 weeks of instruction. In this study multisensory learning techniques helped students to achieve at a higher rate than the norm.

The research reviewed above suggests that engaging students in multisensory learning opportunities positively impacts student learning (Churchill, et al., 1998; O'Dea, 1998). Multisensory learning takes many forms and involves students in
learning through different modalities. Sign language can be used as a multisensory approach in the hearing classroom to help actively engage all students in learning.

**Sight Words**

Sight words are words that are recognized without mediation or utilization of phonetic analysis (Browder & Lalli, in Rivera, Koorland, & Fueyo, 2002). Many sight words, such as *is, were,* and *where,* are difficult to learn because they do not follow sound/spelling rules. Understanding that sight words must be read automatically and that the words can be difficult to learn, teachers employ a variety of methods to help students learn these words. Rivera, et al. (2002) suggests that using prompts, such as pictures, is one method that has been successfully used in teaching children basic sight words. Butler (1999) believes that engaging students in work with peers has also been effective. These approaches are both applicable to this project. Sign language can be viewed as a prompt that students use to help them recall a sight word. Through the physical movements done when signing, students create additional nerve pathways in their brain, which allow them an additional way to recall information (Daniels, 2001). Students in this project will practice signing in a variety of ways including signing with peers or peer tutoring.

Rivera, et al. (2002) reports, “sight words facilitate the increase of fluency and discrimination of other words in context” (p. 198). It is easy to see why teachers emphasize the importance of students learning sight words. In their 2002 study Rivera, et al. studied the effect of using student-made pictorial prompts and fading when teaching a second grade learning disabled student sight words. They found that as the student engaged in the physical movements of drawing, attention was
maintained through this multisensory approach to learning sight words. The learner was more active when illustrating the picture than with traditional sight word instruction, such as drill and practice, because more senses were involved in the learning process. At the start of the treatment, the student read 29% of words correctly and at the conclusion of the treatment phase read 95% of words correctly. Through this multisensory approach to teaching sight words the student made clear improvements in his recognition of basic sight words.

Another method of improving students’ knowledge of basic sight words is by having students work with peers, or having students take part in classwide peer tutoring. Classwide peer tutoring is an instructional method that can be used to increase students’ on-task time, allow students to work with peers, and provide and continuous form of assessment of student progress. Classwide peer tutoring is a valuable teaching tool because it increases the amount of time that students spend actively learning, both academically and socially (Whorton, Carta, & Hall, 1986; Greenwood, Delquardri, & Hall, 1989 as cited in Butler 1999). Butler (1999) researched the effect that classwide peer tutoring had on a group of 9 to 12 year olds in a self-contained special education classroom. Butler found that engaging students in 10 minutes of classwide peer tutoring for sight word instruction had positive impact on student learning. Students made an average gain of one grade level during the eight week treatment phase. By engaging students in learning with peers they were able to help each other learn and keep each other on-task during unstructured times. This is applicable to this project, as students will engage in peer learning to
practice signing sight words and will be able to practice during unstructured times in the classroom.

Rivera, Koorland, & Fueyo’s (2002) work with a second grade learning disabled student indicates that using a multisensory approach to teaching sight words can have a positive affect on student learning. Using a classwide peer tutoring system helped students to make one year’s worth of growth in eight weeks of treatment in research conducted by Butler (1999). Sign language utilizes students’ visual, auditory, tactile, and kinesthetic modes of learning; it is a multisensory tool. When sign language is used as a means of practicing sight words with peers, students are engaged in classwide peer tutoring with a multisensory teaching tool. Sign language is a multisensory teaching tool can be successfully implemented in hearing classrooms to benefit all students.

**Procedures**

For this project, I will be using a cross between PSE and SEE II. The reasons I have chosen to do this are (a) I do not believe at any point during a year I will be signing all the words that I speak, and (b) I have access to a SEE II program. If I did not have SEE II, I would use PSE, as ASL dictionaries are readily available on-line and PSE follows English word order. With that said, I believe that what I will use in my classroom will be PSE with very few differences, as 75 to 80% of SEE II signs are ASL signs or very close to ASL signs. Signed English is the name I use to refer to this approach.

I have chosen not to utilize ASL in my classroom because of the syntactical differences between English and ASL. As the intention of this project is to give
students a multisensory learning experience that will increase their levels of literacy, I anticipate it is best for students learn in a way that preserves the syntax of their oral written language. I feel that using the word order of ASL might result in language confusion. In addition, I feel that I do not have enough experience with sign language to be comfortable using the syntax of ASL.

In order to design this project I had to reflect on what aspects of sign language I felt would be most beneficial for students to learn. After much consideration, I choose to focus on having students learn signs for everyday routines, signs for each letter (so they could fingerspell), and signs for sight words. I felt that using signs for everyday routines would improve classroom management and lessen distractions. Fingerspelling would be important for students to use because it would help them develop left to right correspondence as they spelled words with their hands and it would give them another memory of how to spell words. This would assist students not only in reading but in story writing as well. Having students learn the signs for sight words would give students with a kinesthetic approach to learning to read. Sight words seemed to be a natural choice as students learn the sight words in first and second grade, and they are the most common words students will encounter when reading. If students could master these words they would most likely be able to become better readers, writers, and spellers.

This project requires much preparation and advance planning prior to implementation in the classroom. Prior to the start of the 2006-2007 school year, I have made signed English alphabet cards (which will go on my word wall) and I have created multiple sets of books of signs for each level of sight words. One set of books
was large and will remain in the classroom library, while another set was made approximately half the size and will be available for students to take home as their book in a bag each night. The final set of books is a student sign language dictionary that each student will receive two copies of; one book was sent home and the other remained in their desk as a resource.

During implementation, I am sure I will discover many other resources. I plan to request sign language books from our AEA, and I will teach students how to use several different websites on our student computers that show students how to ask basic questions in sign language.
CHAPTER THREE

INCORPORATING SIGN LANGUAGE INTO THE CLASSROOM

I plan to incorporate sign language into my learning environment from the first day of school. As students came into the classroom, a word wall with all of the letters in print as well as sign will greet them. During the course of the day, routines and classroom rules will be discussed. This presents a perfect opportunity to introduce the signs for restroom, water, walk, sit, yes, no, stop, please, and thank you.

I will discuss with students that in first grade they will not only talk with their voices but also with their hands. Students may have previously learned the sign language alphabet in preschool, so I will ask if they are willing to show the class any letters they remember. This will lead to introducing students to the word wall and signing the alphabet. From these experiences on the first day of school, I will begin implementation of my project. A timeline of implementation is provided in Appendix A.

Manual Alphabet and Fingerspelling

In the weeks that follow, we will practice signing the alphabet daily as a whole group and in small groups. To keep signing fresh, we will sign the alphabet to different alphabet songs such as Alphardy (2000) and Lettercise (2001) by Dr. Jean Feldman. Alphabet stories also offer opportunities for practice. Students may enjoy signing along to Chicka Chicka Boom Boom (1989) by Bill Martin Jr. & John Archambault, The Gunnywolf (1992) by Antoinette Delaney, and personal favorites The Alphabet Mystery (2001) and The Alphabet Adventure (2003) by Audrey Wood.
After a few weeks of signing just the alphabet, I will challenge students to sign their name. Students will be encouraged to sign their friends' names, words from the word wall, and other words in our classroom. I anticipate that at this point, most students will be able to sign all of the letters from memory; I will continue to reinforce the letter signs on a daily basis while challenging students to spell other classroom words with their fingers.

I anticipate that signing games will be introduced after students become fluent in signing the letters of the alphabet. *I Spy on the Word Wall* is a simple game that students will learn. To play, I, or a student, will sign the letters in a word wall word and students will be picked to *guess my word*. This game is perfect for times when there were a few extra minutes before it is time to go to lunch, a special, or time to go home. Students could also play this game during inside recesses.

*Sight Word Work*

In October, the next step in the implementation plan, will be to have students begin to learn signs for the sight words. Each morning during calendar time one of the activities is for students to take a flashcard, read the word silently, use the word in a sentence, and then call on students who think they know the mystery word. This is *word of the day*. In order to incorporate sign language into this game, after students successfully identify the mystery word I will introduce them to that word's sign. After all students finger spell the word, while orally spelling it, and after signing the word while saying it to a partner, the words sign will be added to our *Signs of the Day* bulletin board.
In addition to using sign language sight words during calendar, each student will have a sign language dictionary (see Appendix B) for their desk and home. Sign language sight word books will be available in our reading corner. To reinforce the signs for sight words I will make workstations that use sign language. One workstation will have the sign language letters of the alphabet that students cut and paste to make words. Students will put the words together and form sentences that will be glued on sentence strips and displayed in the writing station. Students can then read their classmates sentences and stories.

Another way that students will work with signs is by using the *Signs of the Day* bulletin board to quiz other students. Each Friday, students will be paired up, sign sight words to each other, and try to identify their partner's words. This activity will provide a way of assessing students on their knowledge of sign language. I will be able to observe students communicating with each other using their voices as well as sign.

*Additional Instructional Strategies*

Teachable moments may lead to the introduction of additional signs. Students might ask how to sign a word, and as I will be learning along with my students, I may need to look the word up during a break and teach them the sign later. This could become overwhelming as students want to know more and more signs, so I plan to introduce them to two online sign language dictionaries [www.signwithme.com](http://www.signwithme.com) and [http://commtechlab.msu.edu/sites/aslweb/browser.htm](http://commtechlab.msu.edu/sites/aslweb/browser.htm). These websites are on-line sign language dictionaries in which a word is typed in or selected from a list and the word is then signed back in a quick time video. Another website the students may
enjoy working on is http://pbskids.org/arthur/print/signdesign/. At this website users are able to work with Arthur to fingerspell words and sign short questions and answers.

As the year goes on, I will incorporate sign language into sight word bingo. I can use sight word bingo templates that have sight words listed in each square and I will sign the words that are to be marked off. After signing the word, I will wait until most students mark the word on the bingo template; then I will call on a student to orally say the word I signed. This will allow students the opportunity to self check their work, and I will be able to observe which students need to move their bingo markers. Students will be able to play this game with volunteers and each other. The word caller would not have to necessarily know the words to sign; they simply need to use sign language word cards to show students the signs while covering up the written word at the bottom of the page.

Students will also use sign language during voice-off times. Voice-off times are simply times when students cannot use their voices to communicate with each other. These times will generally fall at the end of the day and will be times when students can read, finish work, write in their journal, or talk with their hands. Voice-off times will give one more way to assess students’ knowledge of sign language.

Incorporating sign language into my classroom will provide students with an additional mode of learning. It allows students to talk with their hands, have fun, and master sight words. While students learn sight words, I anticipate their learning may carry over into other areas. Students may become better spellers as they practice fingerspelling words; they may be able to ask questions without disturbing their
classmates, which may led to increased on-task time and student achievement. Students may use sign language outside of our classroom and teach specials’ teachers, the principal, and parents talk with their hands.
CHAPTER FOUR
CONCLUSIONS AND RECOMMENDATIONS

This project is not for every teacher and should not be implemented on a whim. In order to successfully incorporate sign language into one’s curriculum much work must be completed prior to implementation. This project would best be started at the beginning of a school year when routines will be introduced. The teacher who incorporates sign language will need to map out goals, locate resources, and create materials prior to the start of the school year. Preparing to use sign language in the classroom takes hours of preparation and the amount of materials that need to be created can seem overwhelming. Teachers need to keep in mind while they are preparing for implementation that incorporating sign language into the hearing classroom can have positive effects on literacy as it engages students in a multisensory approach to learning, that allows them to feel words while minimizing...

I have the following six recommendations for anyone interested in implementing sign language within their classroom:

1. Read the book *Dancing With Words* by Marilyn Daniels (2001). This book provides information about sign language, research on the use of sign language in classrooms (including hearing and special education classrooms), ideas on how to incorporate sign language, and provides a rationale for why sign language helps hearing students learn. I found it to be an invaluable resource.
2. Teachers also need to call their local AEA to find out what resources are available at no charge. Books, CDs, and other resources may be available for you to check out.

3. When deciding to implement sign language take it slow and do not become overwhelmed. There will always be more to do and learn than can possibly be accomplished in one day. Set weekly goals for what you hope to accomplish and what you hope your students accomplish.

4. Allow students to set goals for themselves, find out what types of words they would like to learn. This will allow them to take ownership of their learning and you will be teaching them signs they are interested in and motivated to learn.

5. Involve parents. Parents love to be involved in their children’s education. Asking parents to help by volunteering in the classroom, completing on projects at home, or simply asking their child about the signs they have learned is a simple and effective way to involve parents in children’s learning.

6. A final recommendation is to have fun and enjoy signing!
References


APPENDIX A

ANTICIPATED IMPLEMENTATION TIMELINE
### Anticipated Implementation Timeline

<table>
<thead>
<tr>
<th>Month</th>
<th>Activity</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>August/September</td>
<td>• Introduce signs for classrooms routines&lt;br&gt; • Teach signs for each letter of the alphabet&lt;br&gt; • Introduce fingerspelling</td>
<td>Observation &amp; anecdotal notes</td>
</tr>
<tr>
<td>October</td>
<td>• Teach signs for sight words, pass out sign language dictionaries&lt;br&gt; • Students will begin working with peers to master signs on the “Signs of the Day” bulletin board&lt;br&gt; • Students will continue to do previously introduced activities and have time to practice</td>
<td>Observation &amp; anecdotal notes</td>
</tr>
<tr>
<td>November</td>
<td>• Introduce the game Guess my Word, teach students to use on-line sign language dictionaries&lt;br&gt; • Students will continue to do previously introduced activities and have time to practice</td>
<td>Observation &amp; anecdotal notes</td>
</tr>
<tr>
<td>December</td>
<td>• Begin playing Sight Word Bingo&lt;br&gt; • Start implementing sign language work stations (fingerspelling words)&lt;br&gt; • Students will continue to do previously introduced activities and have time to practice</td>
<td>Observation, anecdotal notes, &amp; student work samples</td>
</tr>
<tr>
<td>January</td>
<td>• Introduce <a href="http://pbskids.org/arthur/print/signdesign">http://pbskids.org/arthur/print/signdesign</a> students will be able to use the web site during computer lab and work station time&lt;br&gt; • Implement new sign language work station (fingerspelling sentences)&lt;br&gt; • Students will continue to do previously introduced activities and have time to practice</td>
<td>Observation, anecdotal notes, &amp; student work samples</td>
</tr>
<tr>
<td>February</td>
<td>• Implement new sign language work station (matching signs and words)&lt;br&gt; • Continue activities introduced previously and have time to practice</td>
<td>Observation, anecdotal notes, &amp; student work samples</td>
</tr>
<tr>
<td>March</td>
<td>• Implement new sign language work station (finding signs using on-line.</td>
<td>Observation, anecdotal notes, &amp; student work samples</td>
</tr>
<tr>
<td>Month</td>
<td>Activities</td>
<td>Notes</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>------------------------------</td>
</tr>
</tbody>
</table>
| April | Implement new sign language work station (students create their own search using the online sign language dictionary)  
      | Continue activities introduced previously and have time to practice                           | Observation, anecdotal notes, & student work samples |
| May   | Implement new sign language work station (students complete a peers search from last month using the online sign language dictionary)  
      | Continue activities introduced previously and have time to practice                           | Observation, anecdotal notes, & student work samples |
APPENDIX B

SIGN LANGUAGE DICTIONARY
's
Sign
Language
Dictionary
Numbers

ONE (1)
TWO (2)
THREE (3)
FOUR (4)
FIVE (5)
SIX (6)
SEVEN (7)
EIGHT (8)
NINE (9)
TEN (10)
ELEVEN (11)
TWELVE (12)
THIRTEEN (13)
FOURTEEN (14)
FIFTEEN (15)
SIXTEEN (16)
SEVENTEEN (17)
EIGHTEEN (18)
NINETEEN (19)
TWENTY (20)
Everyday Words

ALPHABET

ART

BRIGHT

BRILLIANT

EYE-EYE

COME

DESK

DRINK

GOOD

HELLO

LIBRARY

LISTEN

LUNCH

MATH

MUSIC

NO

NURSE

PAPER

PENCIL

PLEASE
Level 1 Words

AND

ARE

CAN

COME

FUNNY

GO

HE

I

IS

JUMP

LIKE

LITTLE

LOOK

ME

OF

PLAY

RED

RIDE

RUN

SAID
Level 2 Words

A.
AT
AWAY
BIG
BLUE
DOWN
FOR
GOOD
GREEN
HAVE
HERE
IN
IT
ME
NOT
ON
ONE (1)
FAN
SAW
THREE (3)
TOO

WE

WILL

YELLOW

YES
Level 3 Words
SOON

YEH (10)

UNDER

YOU

YOUR
Level 5 Words
Level 6 Words

- ABOUT
- AGAIN
- ALWAYS
- ANY
- ASK
- ATE
- COULDN'T
- DOES
- FIRST
- FOUND
- HOW
- LONG
- ONCE
- OR
- OUR
- SAY
- TAKE
- TELL
- THERE
- UPON
Level 7 Words
Level 8 Words

BUY
DRAW
DRINK
FAU
GROW
HOLD
HOT
JUST
KEEP
OFF
OWN
PICK
PLEASE
PRETTY
READ
SHALL
SIX (6)
TODAY
TRY
USE
WELL

WHY

WHITE
Level 9 Words

BEST.
BETTER
BOTH
CARRY
CLEAN
CUT
EIGHT (8)
FIVE (5)
FOUR (4)
FULL
HURT
KIND
LAUGH
LIGHT
IGHT
SEVEN (7)
SING
SLEEP
START.
THANK