

A STUDY OF KINDERGARTEN AND FIRST GRADE SPECIAL  
EDUCATION STUDENTS' RECALL OF COLOR WORDS

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## Abstract

Sign language was hypothesized to increase student recall of color words. Three data sources were used to determine student recall of color words (1) flashcard method, (2) color word assessment sheet, and (3) sign language survey. The three data sources supported the use of sign language to increase student recall of color words.

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## Introduction

### *Purpose of Study*

During the spring of 2004 I attended seven transition meetings for incoming students for the fall of 2004 into my Level 2 special education classroom. Several meetings described students with various verbal communication difficulties. These students were primarily visual learners. I decided my students would need more visual instruction incorporated into my teaching. In the past I have used visual pictures, repetition of directions, student restating the direction, and modeling to assist student understanding of concepts and instructions. One strategy mentioned in one of the meetings was sign language. In the past I have used some basic signs with some verbal instructions. The sign language strategy helped students understand the directions, however, my experience with sign language was limited.

The purpose of this study was to determine the effects of incorporating finger spelling and sign language on student recall of color words in a Level 2 special education classroom. By using a multisensory approach the student was provided with a kinesthetic, visual, and oral method to learn the color word. A multisensory approach provided the opportunity for the student to learn through their strength area. Sign language allows the student another way to answer the questions when assessing them. Another benefit of sign language was that a student becomes more independent in their work.

### *Context of Study*

The study was conducted at Van Buren Elementary in Cedar Rapids, Iowa. Van Buren Elementary school had 398 students and was a school-wide

Title 1 building with more than 50% of students on a free and reduce meal program. Throughout the year the schools' total number of students attending the building and on the free and reduce lunch program fluctuated due to mobility of students. Due to space restraints, I shared my classroom of 11 students with Grant Wood Area Education staff. The classroom consisted of one kindergarten student, six first grade students, two second grade students, and two third grade students. There was one full-time teacher, one student teacher for six weeks, one full-time classroom associate, one four-hour student-specific associate, and one full-time student-specific associate. The range of the student' IQ is from 47-72. Most students in my classroom attended a Level 2 Early Childhood Special Education (ECSE) classroom. Their time in ECSE ranges from 1-3 years.

There was a range of abilities when the students entered my classroom. Some students knew the alphabet and other students were working on the letters in their name. Some students could write their whole name and others were working on writing their first name. I used each student's Individual Education Plan (IEP) as my starting point for assessment and instruction. When the students arrived in the fall they were first informally assessed to see how much information they had retained from the spring. After determining where each student performed academically and socially, instruction began. Instruction took place in a large group, small groups, or individually. In the past when teaching color words I had used flashcards, making color people, finding the color around the room, and matching crayons to the color word. Due to the visual instructional needs of my students, I incorporated finger spelling and sign language when

teaching color words. By doing this I provided a multisensory approach for my students to learn color words. In using this approach my students had more ways to recall color words and demonstrate their knowledge verbally or by signing.

#### *Definition of Terms*

Transition meeting is defined as a meeting held in the spring to assist a student in moving from one building to another building as they continue their education. The following is an example of the team who may attend the meeting: the current teacher, current principal, parents, district representative, receiving teacher, receiving principal, and any other person who may work with the child (i.e. speech pathologist, occupational therapist, physical therapist).

A Level 2 special education classroom usually provides a modified or alternative curriculum instruction for students for most of the day. All students are classified as individuals entitled to special education services. Each child has an Individual Education Plan (IEP) to help guide his or her instruction.

Verbal communication is defined as the understanding and use of speech to communicate with others. Many of the students who arrive in my classroom receive speech assistance because their speech is delayed.

Visual learner is defined as someone who learns more by pictures, gestures, modeling, or by concrete objects. Gestures are hand movements. Modeling is doing the task while the student watches. After teacher modeling the student attempts to perform the same task.

Finger spelling is defined as making a hand formation for each letter of the alphabet.

Sign language is defined as a hand motion for a word.

Mobility is defined as someone who does not stay in one place for very long. The person moves frequently from place to place.

Early Childhood Special Education (ECSE) program is a class for children who have been identified as having a special need. A child may enter the program as early as three years old. In the program students are taught readiness skills and life skills.

Multisensory is defined as instruction provided through many different modalities (kinesthetic, auditory, visual).

*Review of Related Research:*

To determine the focus of how to incorporate a visual component into my instruction, I researched articles focusing on sign language. Many of the articles I found described a positive outcome when sign language was incorporated into teaching sight words. In the article by Joyce (1999) he discussed the pendulum swing of reading instructional methods and how blame was placed on whichever reading method did not show growth at the time. He stressed the importance of having a multisensory approach to reading and assessing each student to determine how to continue their reading instruction. I agreed, teachers needed a variety of reading methods to help each student be a successful reader. In addition, teachers should incorporate a multisensory approach. Sign language is a multisensory approach. My concern was, would my students' fine motor development interfere with making the signs?

In the article by Pitino (2002) she taught kindergartners sight words using sign language. She acknowledged some students had fine motor difficulty



forming letters when signing, but they were 50% successful in recognizing and signing the words. She also stated signing improved students fine motor skills. Additional benefits stated in this study were students learned sight words and stayed engaged in the lesson. Pitino (2002) alleviated some of my concern about using sign language with students who were delayed in their fine motor development. She also showed that students with a range of abilities are all able to be successful using sign language.

As I proceeded with my research on sign language I came across an article by Conflitti (1998) in which she explained cognitive development for children with a hearing loss. In her article she stated young children with a hearing loss learn primarily through vision. Their cognitive development is affected because they do not hear conversations around them. Their linguistic development improved with the use of sign language and spoken English together. This article provided insight why some students in my classroom with a hearing loss are behind cognitively. The article outlined the advantage of using both verbal and visual instruction to increase recall of color words. Wauters, Knoors, Vervloed, and Asrnoutse (2000) studied the affects of using only sign, only spoken language, or sign and spoken language simultaneously with children from six to ten years old who are deaf. They discovered accuracy improved the most for deaf children when sign and spoken language were used together. As I continued to find support for the inclusion of sign language within reading instruction, I wondered which was more effective finger spelling words or using manual signs?

While searching the Internet I found an article by Felzer (2000) in which she had accumulated research supporting the use of finger spelling and sign language to teach reading. In Felzer's (2000) research she cited McKnight (1979, ¶ 6) who used, "...finger spelling for phonetic words and signed non-phonetic sight words to help three primary school-age children with reading difficulties." Later in Felzer's (2000) article, Carney, Cioffi, and Raymond (1985) described how sight words were successfully taught using manual signs with mildly disabled students. The article continued support for verbal and visual cueing. It did not answer the question of finger spelling versus manual signs to teach color words.

I continued my search and found another article referenced by Felzer (2000) and read the findings. In the article by Vernon, Coley, and DuBois (1980) they discussed four characteristics which help disabled readers be successful, they are multisensory, physical involvement, motivation, and incorporate idiographic languages. Idiographic means pictures. American Sign Language was used when teaching second grade spelling to children in three resource rooms. The word was finger spelled while saying the whole word. All students received 100% on their spelling except one. After the child, who did not receive 100% on her spelling, was shown the connection between finger spelling and the written word, she received 100% also. In the article students knew their letters and sounds already. This study differed from mine because my students were just learning letters and letter sounds. This resulted in the need to teach phonemic awareness and manual letters. Upon reading this article, I determined finger spelling would provide a better basis for phonemic awareness development.

While investigating the phonemic awareness piece I watched the movie, *Reading Rockets Launching Young Readers Program 2: Sounds and Symbols* (2002). Within the video was a part explaining the difference in comprehension when words, prefixes, and suffixes were signed. If just the word was signed, the students' average reading comprehension was at an average fourth grade level. If all parts of the word, including prefix and/or suffix, were signed, reading comprehension was significantly raised. For example, an 11 year old demonstrated a reading comprehension at the 9<sup>th</sup> grade level when all parts of the word were signed. When a whole word was signed, it was called cued speech. Basically, it was phonics with sign language. In my classroom the reading program was a direct phonics program. I saw sign language being another possible accommodation when teaching phonemic awareness and reading.

I continued my research looking for more information related to sign language. In an article by Brennan and Miller (2000) they provided research to support the use of sign language with students who have a learning disability. Many students with learning disabilities have phonological processing problems resulting in weak word identification. To improve word identification they incorporated a sign language game, Sign-o, to motivate students. Using the game format helped students recall sight words, and they also used the sign to recall a word if they had forgotten it. Students seem to be more motivated and focused when a game was used to teach a concept. The game could be a wonderful extension to support learning color words.

I wanted to gain more background on why Brennan and Miller (2000) decided to use sign language, so I found two other articles they had cited. One was by Towell (1997-1998) who explained many strategies she had used to teach reading. She listed fingerspelling under Active Involvement and stated it was beneficial to use for word identification for all students. I now had access to a great resource of ideas for strategies to help students become readers and also support of sign language. The second article was by Marino and Gerber (1990) who supported the use of sign language with students with severe and moderate disabilities ranging in age from 1 to 14 years old. They started with concrete words in which there was an object or the students could do an action. By the end of two years the students identified over 60 sight words. Since my students functioned at a higher level, they should have been successful using sign language.

The most helpful article relating to teaching students color words with sign language was an article by Cooper (2002). She stated sign language as a supplement to a reading program enhances some students' reading skills. Cooper taught a self-contained kindergarten class. Cooper (2002) states:

Signing is a multisensory approach that can accomplish a number of goals in a reading program. It can give students who do not have strong visual skills an additional tool to help them read. It can enhance the fun of reading for children who are advanced readers. It can help all children with learning words and letters through kinesthetic as well as visual and auditory cues. It can enhance phonetic learning through finger spelling

while simultaneously emphasizing the use of words in context through Signed English. (p. 116)

In this article Cooper (2002) explained how she taught color words to the kindergartners by teaching the sign and finger spelled word red. She then reads a book with the color word red in it and each time she reads the word red the students sign the word red. They then play a variety of games to reinforce red visually and by signing. She continued these kinds of activities for several days. Her observation at the end was that students learned words more quickly and recalled words longer. Throughout the article Cooper supported the need for a multisensory approach to reading. She provided examples of how to incorporate sign language to teach color words. I was inspired by her methods and her observations.

Taken together these studies demonstrated the advantages of using sign language, I used both sign and finger spelling to improve the recall of color words. The support for using sign language as a visual cue and also as a multisensory approach to teaching reading was endless. The articles provided me with both a starting point and strategies to assist the students in their recall of color words. I intended to show the benefits on recall of color words when sign language is incorporated into the instruction.

#### *Focus of the Study*

The guiding question of my research was, will sign language increase the recall of color words for my students? To measure student recall of color words I held up a flashcard to see if the student knew the color word. I gave each student a sheet with six boxes printed on the sheet. Each box had a color word written in

the box. I observed if the student colored them in correctly. I collected data the first week of school. The second week I implemented the treatment of teaching the students to finger spell the color word and the sign for the color word. I then immersed the color word in our daily activities for a week by signing the color word when it was identified. At the beginning of each of the next five weeks, I introduced a new color and implemented it the same way as week one.

I did not know what the pretest scores would show? I hoped the posttest scores showed the students knowing at least three of the six color words we focused on. From my past experience of teaching color words my belief was, students recall more color words when they are immersed in learning them through a multisensory approach. They learned the color word by saying the color word, seeing the written color word, signing the color word, finger spelling the color word, and having the color word immersed in instruction throughout the day.

The result of incorporating sign language to teach color words also provided multiple ways to assess if the student knew the color word on the posttest. For example, when the student was shown the flashcard they could either verbalize, sign, or finger spell the word. Each student had the same color sheet format as the pretest. I observed if the student colored in the boxes instantly, or if he or she used the sign or finger spelling to help recall the color word.

After the posttest I determined if the rate of introducing color words was effective or not. Other factors interfered with the student's ability to recall color

words. Some variables were: fine motor delayed so the child had difficulty signing or finger spelling the color words, a student had severe speech problems making assessment challenging, a student was easily distracted, a student refused to do the activity, the student already knew sign language, and the student may have been worried about something and could not concentrate.

In conclusion, I felt this research was needed to help provide another visual form of instruction to help recall color words for students. Students who were delayed in communication and/or learned best with visual instruction benefited from sign language. In my classroom my students needed a multisensory approach to help them grow to their potential. Each student learned in their own unique style so it was important to provide many avenues to learn the same concept to ensure all students were learning. This research allowed me to determine if sign language was a beneficial asset to my classroom.

## Methodology

### *Design*

This action research proposal examined the impact of color word recall when sign language and finger spelling were incorporated into teaching students color words. A pretest/posttest design was used to determine subject growth. The student assessments were informal assessment using flashcards (Appendix A) and use of a color word assessment sheet (Appendix B). My three associates and student teacher completed a Likert survey (Appendix C) to help me determine if the study was beneficial. The treatment took place over a six-week time frame at Van Buren Elementary in Cedar Rapids, Iowa.

### *Subjects*

This study took place in a K-2, Level 2, special education class of eleven students. My students came from a diverse socioeconomic background. Each student was identified as an individual entitled to special education services. In this study I used four students. Each student was just entering my Level 2 special education classroom the year of this study. The students knew two or less color words when first assessed.

Student A was a kindergarten student. She was Caucasian and the youngest child in her family. She was short for her age and demonstrated strong readiness skills at the beginning of this study. She knew no color words. Her family was middle socioeconomic class. Her parents were middle-aged and very supportive.



Student B was a first grade student. Her speech was very difficult to understand and she was self-conscious about it. She was of average height. She knew no color words. She was the youngest in her family. Her family was low socioeconomic class. Her parents were middle-aged and supportive.

Student C was a Level 3, first grade student. He had mild cerebral palsy and was considered a visual learner. He knew two color words. He was of average physical build. Due to his negative physical responses he required one-on-one assistance. He was the youngest in his family. His family was middle socioeconomic class and very supportive.

Student D was a first grade student. He was an only child. He had some difficulty following directions. His physical build was average. He knew no color words. His family was middle socioeconomic class and interested in his learning.

#### *Instrumentation*

At the beginning of the first week of school, I talked with my three associates and the student teacher to determine their experience and knowledge of sign language. This information allowed me to see which adults in the room may need assistance in learning sign language to support implementation of this study. At the end of the study a Likert survey (Appendix A) was given to the three associates and the student teacher. I used the results from the survey to help determine the effectiveness of the study.

Each subject was informally assessed throughout the study using a flashcard method (Appendix B). A color word was printed on each flashcard.

One flashcard was held up at a time and the subject responded by saying the word, signing the word, or both. The results were recorded on a chart (see Appendix B). The flashcards were used two to three times a week to reinforce recall of color words. The response to the flashcards consisted of the written word, finger spelling of the word, and manual spelling. After each individual treatment subject recall was recorded on a chart. The chart was used to track subject recall over the six-week implementation.

In addition, each subject was given a pretest consisting of a sheet with six boxes. Each box had one color word written in it (Appendix C). The subject then looked at the color word and colored in the box until all the boxes were colored. I needed to point to the color word, told them to get the crayon, and then encouraged them to color in the boxes. I recorded my observation of how the subject completed the test. At the end of the study, the pretest was compared to the posttest to see if the subject had recalled more color words.

### *Procedures*

The first week of school, I started by talking to the three associates and the student teacher to determine their knowledge of sign language. From this information I provided training to the associates and the student teacher for teaching sign language to students as needed. I then collected student data that included an informal assessment with color word flashcards (Appendix A), and a color word sheet (Appendix B) completed by the students with minimal assistance.

Each student was assessed using a color word written on a flashcard. The flashcard was held up and the student responded either by saying the color word,

signing the color word, or both. This was done throughout the study. The student's recall of color words was recorded on a chart after each one-on-one session (Appendix A).

The students were later given a sheet with six boxes drawn on it (Appendix B). Each box had a color word written in the box. The student was given the direction to look at the color word in the box, find the crayon that matched the word, and color inside the box. I needed to point to the color word for the students. After they found the crayon I encouraged them to color the box.

Over the six-week study a different color word was taught each week. On the first day, I introduced the students to the written color word, the finger spelling of the color word, and the signing of the color word in a large group (Appendix D). I read a story with the color word of the day in the story. Each time the students saw the color word in the story, they would finger spell the word. Throughout the day, every time the students found the color word, we would finger spell it. Two to three times a week the students worked one-on-one with an adult on the finger spelling and signing of the color word. During this time it was determined if the student had enough fine motor development to finger spell the word, or if the student needed to just focus on the sign for the color word.

On day two, I again introduced the same written color word, finger spelling, and sign for the word in the large group. I then read another story with the color word in it, and had the students' finger spell or sign the word (depending

on the student's fine motor skills) when they saw the color word. Throughout the day as the color or color word was found, we signed it. Day three continued with the large group working on the color word by finger spelling the color word, signing it, and finding the color word in the book. However, on that day, after the story I mixed up the letters in the color word to examine if the students could figure out the right letter order of the color word. The students and I continued looking for the color or color word in the environment around us.

On day four, the large group started with the students figuring out who was wearing the color of the color word. As a child was identified, he or she came up and finger spelled or signed the color word. Next, we sang a song about the color word. Each time we sang about the color word, we finger spelled or signed the color word. Later in the day, we read a story about the color word and finger spelled or signed the color word. The color word was integrated throughout our day. Everyone in the classroom was encouraged to wear the color on day five.

On day five, the subjects and I celebrated the color word. We made a craft including the color of the color word, sang a song about the color word, read about the color, and ate a snack that was the color of the color word.

The next five weeks followed the same implementation for a new color word each week and reinforcement of learned color words. Each student received one-on-one color word instruction on the written color words, finger spelling of

the color words, and/or sign of the color words two to three times a week. After each intervention with an adult, the student's recall of color words was recorded.

At the end of the six weeks, each student improved his or her color word recall with the help of sign language. Most of the students recalled at least two of the six color words in the study. Also, the student teacher completed a Likert survey (Appendix C) which helped me determine the effectiveness of this study.

#### *Limitations of the Study*

There were numerous potential confounding problems with my study. One confounding variable was a student with severe speech problem, making it difficult to assess using flash cards on the pre-test. A second confounding variable was having a student teacher take over teaching; she had a different teaching style than me. A third confounding variable was fine motor delayed so the child had difficulty with signing or finger spelling color words. A fourth confounding variable was the length of the color word and the student being unable to remember all of the letters to finger spell the word. Another confounding variable was the student may be agitated and would not concentrate on the lesson. This resulted in inaccurate data.

I addressed these limitations by doing the following practices. If a child had severe speech problems, I encouraged the student to do her best verbally and when signing. I demonstrated for the student teacher my methods and process of implementing sign language with the students. If a student showed a delay in fine motor skills, I modified the finger spelling or sign. The students were encouraged

to learn the finger spelling and/or sign, even if they already knew the color words.

The other factors were hard to have a set intervention at the beginning of the study, but were addressed as they arose.

*Time Line*

Week 1—Pre-assessments

Week 2—Introduce and use the color word red daily

Week 3—Introduce and use the color word blue daily  
--Reinforce the color word red

Week 4—Introduce and use the color word orange daily  
--Reinforce the color words red and blue

Week 5—Introduce and use the color word yellow daily  
--Reinforce the color words red, blue, and orange

Week 6—Introduce and use the color word green daily  
--Reinforce the color words red, blue, orange, and blue

Week 7—Introduce and use the color word purple daily  
--Reinforce the color words red, blue, orange, blue, and green

Week 8—Survey and post-assessments

## Findings

The primary question in this study was, would sign language increase student recall of color words? To determine the effectiveness of using sign language to increase student recall of color words, there were three methods in which data was collected. The three methods were saying the color word, finger spelling, and manual signing. The first data source was a flashcard method (Appendix A). Students were encouraged to respond by verbally saying the color, finger spelling the color word, and manually signing the color word.

In Figure 1 (p. 21), on the flashcard pretest student A knew zero color words verbally. She also did not identify any by finger spelling or manually signing the color words. The posttest results showed she recalled two color words verbally, two color words by finger spelling, and one color word by manually signing the color word.

According to the pretest results in Figure 1, student B did not demonstrate knowledge of the color words by using any of the three methods used in this study. The posttest results for the color word showed the following: she knew six color words verbally, five by finger spelling, and six by manual signing.

In Figure 1 student C demonstrated the following flashcard pretest results for color words: he knew two by verbally saying the words, one by finger spelling the words, and zero by manually signing the words. Posttest results indicated he knew two color words verbally. As per the pretest he knew red and yellow, but on the posttest he knew red and blue. As indicated on the pretest, he could finger spell one color word (red) but on the posttest he knew two different



colors blue and yellow. On the manual posttest he knew two manual signs, blue and yellow.

As indicated, the flashcard pretest and posttest results in Figure 1 for Student D were the same. He knew zero words by verbally saying the color words, by finger spelling the color words, and manually signing the color words.



The next method of pretest and posttest assessment was a color word worksheet (Appendix B). This method was used to assess color word recall in an abstract way. For three students I had to point to each color box for them to focus on the test.

On the pretest student A did not color any color words correctly. On the posttest she colored three color words correctly as I pointed to each box. Student B on the pretest colored one color word correctly. On the posttest she colored all six color words correctly. Student C on the pretest colored two color words correctly. On the posttest Student C colored three color words correctly. The final student, Student D, on the pretest colored zero color words correctly. On the posttest he colored all six color words correctly by matching the color word on the crayon to the word on the paper.

The final data source was a survey completed by my student teacher and three classroom associates. Table 1 shows the results of the survey.

Table 1

Sign Language Survey Results

(N=4)

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	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
1. Sign language improved student recall of color words.	3		1		
2. Students had the Fine motor ability to do sign language.		4			
3. Five minutes daily of individual one-on-one instructional time to reinforce sign language was enough time.	1	2	1		
4. Incorporating sign Language into Instruction is beneficial to students.	3	1			

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As seen in Table 1, seven answers were “strongly agree”, seven answers were “agree”, and two were “undecided.

*Limitations*

One of the limitations was the speech ability of one student. To help this student I worked to increase her self-esteem and explained to her how sign language would help her communicate. The second limitation was having an inexperienced student teacher. Throughout the study, the student teacher had difficulty implementing all of the sign language activities. The third limitation

was the fine motor abilities of the students. Each student was encouraged to make the sign as close as they could to the actual sign. They all attempted to sign each color word. Another limitation was having an agitated student who would not concentrate on the activity. Eventually I had to let the associates work with the agitated student and I had to continue teaching sign language to the other students.

There were a couple of limitations I had not considered prior to the study. One was not having enough time to implement all parts of the study daily, which reduced the amount of practice for the students. The other limitation was half of the class being new students to my classroom, with one student unable to attend in the group for more than five minutes. As a result of his behavior, several students were distracted during instructional time.

## Conclusions

The focus of this study was to examine conclusions of how sign language impacted the students' recall of color words in this study. These three data sources collectively indicated sign language increased students recall of color words. The surveys also supported the positive role sign language played for the students. An important point to remember when considering the results of this study, was students in a Level 2 mild disabilities classroom need several repetitions of the same concept in order to master the concept. With this in mind, the validity of this study is hard to determine. The students showed a wide variety of recall in the assessments. For example, throughout this study a student may know the color red four assessment times in a row verbally, by finger spelling, and manual signing. The same student may know the color word blue two assessment times in a row and then not know blue but know yellow instead.

Careful analysis of the flashcard method results showed many interesting results. As shown in Figure 1 one student showed zero growth and one student showed significant growth. For one student sign language provided a noticeable boost to her self-esteem. After the treatment she could identify five color words by finger spelling, six color words verbally and by manual sign. In contrast, another student was very inconsistent in recall of color words in all three methods. The other two students were consistent verbally on the color word red, but inconsistent on the other color words with each method.

After I analyzed the color word assessment sheet (Appendix B), I observed growth for all four students. The main goal of recall of color words was

to recognize the written color words in the environment. Student recall of color words improved. I also observed one student matching the word on his crayon to the color word on the sheet. As I watched him do this I thought, at least he has the coping skill to know where to look to find the right color. I believe sign language has helped those students increase their recall of color words. Would they have learned their color words without the use of sign language? Further study will have to be conducted to examine this problem.

To determine other staff input, I utilized a survey (Appendix C). Overall, the surveys indicated that sign language is beneficial to student recall of color words. All responses except two were “strongly agree” or “agree”. One comment on the survey stated “I have used the sign for the colors with students for many years and have found it to be very beneficial in helping students learn their color words. I have also used sign for the sight words and found it to be beneficial to students.”

A further review of literature Pitino (2002) discussed students’ success when sign language was used. In Pitino’s study students were 50% successful in recognizing and signing words in a general education classroom. I had one student recognize and sign color words with 100% accuracy, two students who with 30% accuracy, and one who did not demonstrate any accuracy. Pitino states that fine motor skills improved for the students. I do not know if fine motor skills improved for my students, but the students were motivated and enjoyed signing. Further study would be required to determine if fine motor skills improve.

A review of the relevant literature showed the importance of using a combination of strategies to teach concepts. Several articles talked about verbally

saying and signing the words because it allowed students the opportunity to be actively involved. Saying while signing also allows students another way to help their brains make a connection with the color word. Due to individual learning styles a teacher has to approach teaching from many techniques to allow students to learn in their own unique way.

*Action Plan*

Overall the use of sign language improved student recall of color words. I will continue to use finger spelling and the manual sign for color words within my classroom. I will also create opportunities for students to work individually or in small groups to learn other words by using sign language.



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Appendix A

Color word flashcards and recording sheet

## Flashcards

**Written  
Word**

Date														
red														
blue														
yellow														
orange														
green														
purple														

**Finger  
Spelling**

Date														
red														
blue														
yellow														
orange														
green														
purple														

**Manual  
Spelling**

Date														
red														
blue														
yellow														
orange														
green														
purple														

Appendix B

Color word assessment sheet

Name \_\_\_\_\_

Date \_\_\_\_\_

**red**

**blue**

**orange**

**yellow**

**green**

**purple**

Appendix C

Survey for Associates and Student Teacher



## Sign Language Survey

Please respond to the following items by drawing a circle around the response that most closely reflects your opinion: strongly agree (SA), agree (A), undecided (U), disagree (D), or strongly disagree (SD). Please add your observations of student use of sign language and recall on the back of this paper.

1. Sign language improved student recall of color words.

Strongly agree  
Agree  
Undecided  
Disagree  
Strongly disagree

2. Students had the fine motor ability to do sign language.

Strongly agree  
Agree  
Undecided  
Disagree  
Strongly disagree

3. Five minutes daily of individual one-on-one instructional time to reinforce sign language was enough time.

Strongly agree  
Agree  
Undecided  
Disagree  
Strongly disagree

4. Incorporating sign language into instruction is beneficial to students.

Strongly agree  
Agree  
Undecided  
Disagree  
Strongly disagree

Appendix D  
Sample Lesson Plan

## Lesson Plan For Signing Color Red

### *Goal:*

To improve student recall of the color word red.

### *Instructional Objectives:*

Students will identify the written word red.

Students will sign the color word red.

### *Materials:*

Flashcards-written word red, sign flashcards for red  
Book "Little Red Hen".

### *Procedures:*

1. Hold up a red crayon and see if anyone knows the color name.  
Discuss with the students how "red" is spelled.
2. Show the students the written red flashcard then show the students how to finger spell the color "red".
3. Show students how to sign "red".
4. Tell the students we are going to read a story with the word "red" in it and every time we see it we will finger spell the word.
5. Read the title "The Little Red Hen" and model finger spelling "red". Have the student finger spell "red"
6. Read "The Little Red Hen" and finger spell "red" when it is read.
7. Ask the students what word we were finger spelling. Have students demonstrate finger spelling "red".

### *Follow-Up:*

As you see the color "red" or the color word "red" in the room everyone will sign it throughout the day.

Appendix E  
Graceland Forms