READING BEYOND THE WORDS: HOW IMPLEMENTING ESL STRATEGIES

DURING MODIFIED GUIDED READING AFFECTS A DEAF STUDENT'S

LANGUAGE ACQUISITION PROCESS

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While Deaf students are not typically classified as English as a second language (ESL) students, the majority of deaf students first become fluent in a signed language, making them ideal candidates for ESL research. This case study has been designed to explore the ways in which one method of ESL reading instruction, known as modified guided reading (MGR), affects the language acquisition process, and resulting reading comprehension level, of a deaf student over eleven weeks. The study documented the student's language acquisition development both in American Sign Language (ASL) and in English, as well as tracked the student's growth in reading comprehension, metalinguistic awareness, and visual attention skills. The Accelerated Reader (AR) program, benchmark testing, and daily observations were used to measure growth. Findings of the study suggest that the ESL methods implemented through MGR positively impacted the student's language acquisition process, reading comprehension level, metalinguistic awareness, and visual attention skills. Results showed an increase in all three of the student's AR scores as follows: 31% in reading level, 13.1% in number of words read, and 13.2 % in comprehension test scores. Observations and benchmark testing revealed increased metalinguistic knowledge in *word, syntactic,* and *pragmatic awareness.* Visual attention skills were found to be the key element in allowing reading comprehension to take place and strategies for improving these skills were found to be a necessary part of the MGR process.

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LIST OF ABBREVIATIONS

ASL   American Sign Language

ATOS Advantage/TASA Open Standard for Readability

ELL   English Language Learner

ESL   English as a Second Language

IEP   Individual Education Plan

MCE   Manually Coded English

MGR   Modified Guided Reading

RDSPD Regional Day School Program for the Deaf

SEE   Signing Exact English

TASA   Touchstone Applied Science Associates, Inc.

ZPD   Zone of Proximal Development

CHAPTER 1

INTRODUCTION

1.1   Statement of Problem

Ninety percent of deaf children are born to hearing parents, the majority of whom

have no prior knowledge of a signed language or of Deaf culture[1] (Mitchell, 2004). As a

result, most deaf children enter kindergarten with delayed language skills (Marschark,

Lang, & Albertini, 2002). Futhermore, several studies have shown that, on average,

deaf individuals who are high school age and beyond read at a fourth grade level (Allen,

1989; Holt, 1993; Marschark et al., 2002; Schildroth & Hotto,1994). Although many

treatments designed to improve overall reading levels of deaf students have been

implemented over the last few decades, follow-up studies have shown little change in

post-treatment reading levels (Chamberlain & Mayberry, 2000).

In the past decade, several methodologies have been studied to determine the

best approach for teaching deaf children to read. Numerous studies have debated the

effectiveness of auditory phonetic measures (Kyle & Harris, 2006; Paul, 2005) or visual

phonological methods achieved by fingerspelling or providing signed cues for each

phoneme (Trezek & Malmgren, 2005; Trezek & Wang, 2006), but the results do not

suggest consistent success with either method. Recently, more attention has been

given to the idea that deaf students in the United States need a strong foundation in

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[1] Conventionally speaking, an uppercase 'D' used in the term "Deaf" represents the cultural and linguistic heritage of Deaf individuals who use American Sign Language, while a lowercase 'd' simply describes the medical condition of having a hearing loss. Additionally, the phrase "Deaf and hard of hearing" is often used to refer to a group of individuals with a varying degree of hearing loss. However, the term "deaf" with a lowercase 'd' can also be used as an inclusive term to represent all individuals in this group, regardless of cultural affiliation or level of hearing loss. Thus, I will use the term "deaf" in this paper to refer to all D/deaf and hard of hearing individuals with the exception of certain instances where the term "Deaf" is more appropriate description of the linguistic or cultural topic at hand.

American Sign Language (ASL), their first language, in order to read and write well in English, their second language (Mayberry 2002).

As English as a Second Language (ESL) methods for teaching deaf children to read and write have gained traction in deaf education philosophy, the effectiveness of these methods in the instruction of deaf children have been researched with varying results. Some argue that the language structures of ASL and English are too different to allow for natural language transference between ASL and English, limiting the success of ESL-based teaching methods (Mayer & Wells, 1996). Other results show that form-based ESL instruction can be used effectively to improve the reading and writing performance of deaf students (Berent et al., 2007).

The variance in these results suggests the need for more research regarding the effectiveness of ESL strategies for teaching reading and writing to deaf children. The conflicting results also point to the idea that academic professionals have not yet conclusively discovered how the reading task for deaf children is performed or improved. In fact, as Musselman (2000) states, "No one knows yet how deaf children learn to read" (p. 25).

1.2   Purpose of Proposed Study

The proposed case study has been designed to further explore the ways in which one method of ESL reading instruction, known as modified guided reading (MGR), affects the language acquisition process of a deaf student. Unlike many ESL studies that focus solely on second language (L2) acquisition, this study will track the student's linguistic development both in her first language (L1) and her second language.

Furthermore, the study is designed to have the student's interpreter[2], who is also the author of this thesis, facilitate MGR sessions during the student's regularly scheduled classroom reading time.

The student's language development will be measured using the Accelerated Reader (AR) program, which has been designed to test school children for their independent reading levels, number of words read, and overall reading comprehension ability. Independent reading levels are assigned an ATOS[3] score, or a score that indicates on what grade level and month of the grade level the student is currently reading. For example, an ATOS reading level of 4.3 indicates that the student's reading level is fourth grade, third month. The student is then assigned a ZPD, or zone of proximal development, indicating the range of reading levels ideal for improving the student's reading comprehension ability. A student's ZPD spans at least a full grade level to encourage the student to read slightly above and slightly below her ATOS reading level. Using the previous example, a student with an ATOS reading level of 4.3 might be assigned a ZPD range of 3.8 – 4.8.

The modified guided reading process for this study is structured in the following way:

1. The student will test to determine her ATOS reading level and zone of proximal development (ZPD). The test will be administered in three ways:

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[2] While the role of the interpreter in this design might be considered unconventional, the linguistic oversight the interpreter provides falls within the scope of established duties determined by the Registry of Interpreters of the Deaf (RID) for educational interpreters (Registry of Interpreters for the Deaf, 2010).

[3] The Advantage/TASA Open Standard for Readability, or ATOS, score will hereafter be referred to as the ATOS score or ATOS reading level.

independently, with the assistance of a Signed Exact English (SEE) [4] interpreter, and with the assistance of an American Sign Language (ASL) interpreter. I will record the student's ATOS reading level and ZPD for each method of test administration.

2. The student will then choose books that fall within her independent ZPD level.

3. The student and I will then read the book together and use the three ESL strategies typically incorporated in modified guided reading instruction: vocabulary instruction, analysis of second language text structure, and discussion of cultural relevance (Avalos, Plasencia, Chavez, & Rascón, 2007).

4. The student will take an AR comprehension test. The resulting score will be used to determine the student's level of comprehension.

5. I will document the student's ZPD levels, ATOS reading levels, word count, and comprehension test scores will over eleven weeks. At the end of the eleven weeks, the student will be retested each of the three ways: independently, SEE- assisted, and ASL-assisted.

6. I will analyze the student's score to determine improvement, if any, in her reading levels, stamina (as evidenced by word count)[5], and comprehension ability.

Implementing the modified guided reading process in this manner addresses the following research questions:

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[4] As the educators of the deaf began to realize the shortcomings of oral pedagogy methods in the 1960s and 1970s, a series of manually coded English sign systems were developed to better teach English to deaf children. Signing Exact English (SEE2) was developed five years after the creation of Seeing Essential English (SEE1) (Gustason, Pfetzing, & Zawolkow, 1972). In the last several years, the use of SEE1 has declined to the point that it is no longer formally used, and SEE2 has simply become known as SEE.

[5] In reading instruction, the concept of stamina addresses the student's ability to stay with a text for increasingly longer lengths of time (Gulla, 2012). For this study, the number of words the student reads will serve as a measure of the student's reading stamina.

1. Does the modified guided reading process improve the student's ATOS reading level, stamina (as measured by word count), and AR comprehension ability?

2. Does the student's independent reading comprehension level improve at the same rate as her ASL-assisted reading level?

3. Does the modified guided reading (MGR) structure impact the level of the student's metalinguistic awareness both in ASL and in English?

4. Will the use of the three ESL strategies[6] inherent to modified guided reading instruction improve the student's ability to translate between ASL and English independently?

The first chapter presents the introduction and state the need for the type of case study research to be conducted. Chapter 2 covers the history of deaf education, current legislation governing deaf education, and the roles different individuals serve in local deaf education programs. Chapter 3 discusses pedagogical methods for teaching deaf children and how they relate to the proposed study. This chapter also outlines the process of guided reading and how modified guided reading (MGR) works for English-language learners (ELLs). Chapter 4 briefly covers my personal background and my experience in the field. Chapter 5 outlines the methodology used for this study and describes how the data was analyzed. Chapter 6 discusses the results of the study, and Chapter 7 discusses the implications these results have on shaping reading pedagogy for deaf children. I also discuss how any shortcomings of the study might be avoided. Chapter 8 provides a conclusion to the first seven chapters and suggest recommendations for future research.

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[6] Vocabulary instruction, second text analysis, and cultural relevance discussion (see Avalos et al., 2007)

CHAPTER 2

DEAF EDUCATION AND INTERPRETING IN K-12 CLASSROOMS

2.1   History of Deaf Education in the United States

The history of deaf education in the United States plays an important role in understanding why an ESL (English as a Second Language) approach to teaching deaf children is still in its infancy. Additionally the history of deaf education reveals several areas of controversy among educators ranging from the proper placement of deaf children in schools to which type of language system to use for instructing deaf children.

Formalized deaf education practices in the United States date back to the early 1800s when Thomas Gallaudet traveled to France in search of new methods for teaching his daughter, who had been born deaf. While in France, Gallaudet observed a lecture given by Abbé Sicard demonstrating the success of two deaf pupils, Jean Massieu and Laurent Clerc. Both Massieu and Clerc used French Sign Language as a means of communication and were able to successfully answer each question Sicard asked of them. Gallaudet spent seven months at the National Institution for Deaf-Mutes in Paris and then convinced Clerc to return to Hartford, Connecticut to teach him sign language and help him open a school for the deaf. Clerc agreed and became the first deaf teacher in the US.

Over the next several years, several more schools for the deaf opened their doors across the country. Signing remained the predominant mode for communication. During the latter part of the 19th century, debates concerning manual (sign) versus oral pedagogy raged between Alexander Graham Bell and Edward Miner Gallaudet, Thomas Gallaudet's son, due to their different experiences with deaf individuals.

Edward's mother, who was deaf, used sign, while neither Bell's wife, who was deaf, nor his mother, who was hard of hearing, signed. The arguments that sparked from this controversy caught the attention of educators of the deaf worldwide. In 1880, the Congress of Milan met to determine an official position on the matter. The predominantly hearing congress voted that the German oral method should become the official standard for deaf education. This decision was made in the absence of several advocates of signed communication, who had been unable to attend the congress. Furthermore, deaf individuals were denied the right to participate in the congress or place a vote.

The introduction of oralism to US schools drastically changed the way in which deaf students were taught. Instead of allowing students to explore topics through signed communication, educators focused on speech and lip-reading skills. Deaf students were not allowed to sign in class and teachers carried rulers to remind students to keep their hands still and at their sides. Understandably, many deaf students did not achieve their academic potential with such a strong oral focus in the classroom.

More than eighty years passed after the Congress of Milan's decision requiring oral teaching methods in the schools before ASL was officially recognized as a formal language. In the 1964, the government funded Babbidge Report recommended foundational changes in deaf education due to the lack of educational achievement by deaf students (Babbidge, 1965). It marked a shift in the strongly oral educational philosophy that had governed deaf education and opened the doors for sign language to be allowed back in educational settings (Coryell & Holcomb, 1997). Due to the

nature of the findings, the Babbidge Report was largely responsible for bringing about the end of the so called "Hundred Years War" between the 1860s and 1960s where oral and manual approaches had been strongly juxtaposed (Lou, 1988).

Shortly following the Babbidge Report, three new manually coded English (MCE) sign systems were developed to better teach English to deaf children: Seeing Essential English, or SEE1 (Anthony & Associates,1971); Signing Exact English, or SEE2 (Gustason, Pfetzing, & Zawolkow, 1972); and Signed English (Bornstein, Hamilton, & Saulnier, 1980). Because ASL does not inflect verbs for tense and rarely uses articles (e.g., to, an, a) or linking verbs (e.g., is, are, seems, feels), the goal of each of these three sign systems was to represent English word order and grammatical structures exactly in the manner that they occur in English. Over time, the use of SEE1 declined in favor of SEE 2, which is currently simply referred to as SEE.

When MCE systems were introduced into the deaf education field, the language controversy switched gears from the oral versus manual debate to the use of ASL in bilingual-bicultural settings versus the use of Manually Coded English (MCE) in simultaneous communication settings (Drasgow, 1998). There has been no ruling on which language system to use and individual school districts determine whether their deaf education program will use ASL, SEE, or both.

2.2   Controversial Decisions

Although the transformation was not immediate, the recognition of ASL as a valid language for deaf individuals opened doors for improved attitudes regarding signed communication (whether SEE or ASL) and brought about great social and political

transformations for the deaf community. Additionally, new pedagogical theory developed that focused on a child's ability to use concrete objects to develop skills in observation and reasoning. These views became the basis for current pedagogical theory, which highlights the need to anchor new information to the child's current level of knowledge and experience. As will be seen in Chapter 3, this type of pedagogical theory lends itself well to English as a Second Language (ESL) instruction for deaf children. (Crouch & Greenwald, 2007; Marschark, Lang, & Albertini, 2002)

However, oral methods still play a part in the debate regarding the best communication and instructional methods to use for educating deaf children. As previously mentioned, ninety percent of deaf children are born to hearing parents, most of whom have no signing background. Understandably, these hearing parents rely heavily on the professional recommendations from doctors and teachers (Marschark et al., 2002). Although current research shows that teaching both English and American Sign Language (ASL) to deaf children does not hinder educational achievement, many doctors and audiologists still believe that teaching deaf children to sign will delay speech development (Padden, 2008). Thus their recommendations tend to support oral methods of education, which many parents accept as being the best approach for their child.

However, while oral-based methods may meet the needs of certain hard of hearing individuals, few deaf children reach their potential from a purely oral approach. In fact, Marschark et al. (2002) report, "If anything, sign language seems to support learning of a spoken language in deaf children, including for those with cochlear implants, and there is no evidence to suggest any interference" (p. 75). Additionally,

several studies have shown that deaf children exposed to signed communication from birth perform on grade level with their hearing peers, whereas deaf children who do not have access to signed communication until starting school remain several grade levels behind their hearing peers (Brasel & Quigley, 1977; see also a review of studies in Wilbur, 1987). In fact, recent research has shown that deaf children who start school with a strong ASL base will be able to learn to read and write English using L2 acquisition techniques. Students entering school without a strong ASL base must first learn ASL, putting them farther behind both their hearing peers and their deaf peers already using ASL (Wilbur, 2000).

Thus educators of the deaf must be prepared to deal with a variety of opinions regarding the best approach for teaching deaf students and determine the specific combination of methods best suited for each student.

2.3   Current Legislation Governing Deaf Education

As teaching methods began to change in response to the recognition of ASL as a formal language, so did the laws governing deaf education. In the 1960s and 1970s, several laws were passed with the goal of improving educational opportunities for those with disabilities. In 1975, Public Law (PL) 94-142 was enacted and served as a foundational shift in the attitudes regarding deaf education. PL 94-142 was the first of its kind in the special education field and guaranteed free, appropriate public education for all children with disabilities. Additionally, PL 94-142 required that each child be placed in the least restrictive environment (LRE) possible with opportunity to fully interact with non-disabled children. PL 94-142 also included a due process clause,

giving parents of children with disabilities the right to an impartial hearing to settle any educational conflicts with the school district. For the first time, many parents of deaf children were able to keep their deaf children in neighborhood schools and request appropriate accommodations to meet their children's educational needs.

2.4   The Impact of PL 94-142 on Placement of Deaf Students

PL 94-142 had a profound effect on the distribution of deaf students between residential and local public day school programs. In the ten years after PL 94-142 was passed, enrollment of deaf children at public residential schools dropped by 18.3% and at private residential schools by 69%. At the same time, enrollment of deaf children increased in neighborhood school programs by 30%. Of the students who stayed at residential schools, 40% registered as day students and went home to their families each day after school (Calderon & Greenburg, 1993).

The increased enrollment of deaf children in neighborhood day school programs, known as Regional Day School Programs for the Deaf (RDSPD), increased with the transformation of PL 94-142 to the Individuals with Disabilities Act (IDEA) in 1990. IDEA opened the doors for further parent involvement and required schools to set an Individual Education Plan (IEP) for each child served by IDEA. The IEP provides a plan for meeting the student's educational needs with measurable goals. For a deaf child, the IEP also states whether the child receives interpreter, audiology, or speech services through the RDSPD.

While many saw IDEA as having a positive impact on deaf children in a number of ways, including increased family involvement and peer interaction, the brunt of

educational responsibility shifted to the parents and local school districts, often without the support of sufficient federal funds (Calderon & Greenberg, 1993). The shift in education to local school districts left many parents and educators of deaf children having to determine the best course of action for their students, sometimes without the knowledge or background to make the most appropriate decisions for the situation. As a result, methods of teaching deaf children have tended to vary widely from city to city and state to state and have depended heavily on the individual expertise and knowledge of the person(s) in each program regarding curriculum and instruction.

2.5   The Deaf Education Team

In most schools, several individuals make up a child's deaf education team. As the methods I use in this study are not limited to use by one team member or another, it is worth acknowledging the different roles of each individual on the deaf education team. Depending on the composition of the child's team, a certain team member might be more qualified or available to facilitate the modified guided reading (MGR) instruction with the child. Further modifications may need to be made when implementing MGR to make sure the individual responsible for facilitating instruction can remain within the scope of his or her assigned role (see Chapter 7 for a comprehensive discussion of this topic).

Due to the fact that the participant in this study is enrolled in a Regional Day School Program for the Deaf (RDSPD), I will be describing the team members of a traditional RDSPD. However, similar team member structures are often found at

residential schools for the deaf and similar applications can be made for residential schools.

Deaf children enrolled in an RDSPD may be placed in a variety of settings, including a self-contained classroom with other deaf and hard-of-hearing children, a mainstreamed environment with hearing teachers, hearing peers, and a sign language interpreter, or a combination of the two. Instructional aides, who may or may not sign, might also be a part of the child's educational team (Smith, 2010). Surveys of deaf and hard of hearing youth show that approximately 23-24% of students in RDSPD programs use an interpreter and 17-18% of students work with an aide (Gallaudet Research Institute, 2003, 2004; Gallaudet Research Institute, 2008). Additionally, deaf children may receive instruction from deaf education teachers located on campus, itinerant deaf education teachers who travel from their home campus to the student's campus, hearing regular education teachers, or hearing special education or resource teachers.

Thus, a child may have several individuals with varying roles composing her educational team. In most settings, the structure of modified guided reading (MGR) is such that any member of the child's educational team could implement the strategies and techniques of MGR. In the case of this study, the team member facilitating MGR is the child's interpreter[7].

2.6   The Role of Educational Interpreters in Guiding Language Acquisition

While traditional pedagogy regarding language development of deaf students focuses on methods of instruction for certified teachers (whether certified in deaf

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[7] In the interest of full disclosure, I wish to re-emphasize the fact that the interpreter is also the author of this thesis.

education, special education, or regular education), the idea that interpreters also function as "language teachers" has received much attention in last two decades (Antia & Kreimeyer, 2001; Seal, 1998). It is generally accepted that the primary responsibility of educational interpreters is to facilitate communication between deaf and hearing individuals in an RDSPD or residential school. However, it is not uncommon for educational interpreters take on multiple roles, providing additional services in tutoring, sign language instruction, monitoring and care of student's amplification equipment, and note taking. Furthermore, educational interpreters are often responsible for providing input regarding the child's ability to linguistically comprehend classroom instruction (Antia & Kreimeyer, 2001; Yarger, 2001). Because educational interpreters are on the front lines of language facilitation, much of a mainstreamed deaf child's language development is now being recognized as directly tied to the interpreter's skill and expertise (Smith, 2010).

Research shows that the vast majority of educational interpreters understand the significant role they play in helping, or even hindering, a child's language acquisition process. A survey of 217 educational interpreters in Kansas, Missouri, and Nebraska revealed that 94.9% of the interpreters saw a need for continued interpreter training (Jones, 1993, 1994). However, as interpreters often function in roles beyond interpreting, it is crucial that training provided goes beyond interpreting matters and addresses educational strategies needed by interpreters. Smith (2010) documents the effectiveness of an interpreter receiving specialized instruction regarding tutoring and language learning for deaf children. In a fashion similar to the modified guided reading process used for this study, Camie, the interpreter in Smith's study, was responsible for

holding designated tutoring sessions with a deaf student and working on the student's language development. Prior to receiving the specialized training targeted at K-12 educational interpreters, Camie had been unaware of the pedagogy related to creating critical connections between written English and ASL. Once Camie completed the training, she was able to modify her instructional approach during tutoring sessions and successfully use appropriate techniques to help the student achieve her language learning goals.

The implications of Camie's tutoring success after receiving specialized training speaks to the design of this study where the interpreter is the main facilitator of modified guided reading (MGR). If the MGR methods employed in this study by an interpreter prove successful for the student and no conflicts of interest are reported, the results would then warrant further research regarding the feasibility of implementing these methods on a larger scale. As 23-24% of deaf children receive instruction through interpreter services (Gallaudet Research Institute, 2008), the impact that interpreter-guided MGR instruction could have on the reading comprehension levels of deaf children is significantly large enough to be worth considering. Additionally, other members of the child's educational team could be trained in MGR instruction, providing an even greater impact that this type of ESL instruction could have on the reading levels of deaf children.

2.7   Summary

Understanding the history of deaf education is a crucial part of determining why the system has not produced stronger reading and writing skills in deaf children. The

eighty year reign of oral education methods prohibited students from learning through signed communication and instead placed strong emphasis on speech and lip reading skills. The recognition of ASL as a complete, naturally occurring language in the 1960s launched a series of reform concerning deaf education methods.

Additional reforms were spurred by the passage of Public Law 94-142, which became known as the Individuals with Disabilities Education Act (IDEA) in 1990. These laws required local school districts to meet the educational needs of children with disabilities in a least-restrictive environment. As a result, enrollment of deaf children in residential schools dropped as parents began enrolling their deaf children in a local Regional Day School Programs for the Deaf (RDSPD). The shift in enrollment meant deaf children had increased opportunity for family involvement and peer interaction, but left parents and RDSPD educators having to determine the best course of action, often without the necessary assistance or support. As a result, deaf education methods still vary greatly between RDSPDs and depend on the knowledge and expertise of individual team members at each RDSPD.

Although national and state conferences have been conducted to share research and teaching methods among deaf educators, a unified approach to deaf education has yet to be realized. Modified guided reading (MGR) instruction may provide one avenue of improving reading comprehension for deaf children that could be standardized and reproduced. While the MGR sessions in this study are facilitated by the student's interpreter, the structure of MGR instruction is such that other members of the child's educational team could be responsible for MGR instruction. The flexibility of the MGR

set-up makes this type of instruction accessible to deaf children attending either RDSPD

programs or residential schools.

Therefore, the goal of this study is to investigate the ways in which deaf

children's reading comprehension ability is affected by English as a Second Language

(ESL) strategies implemented through modified guided reading (MGR).

CHAPTER 3

USING MODIFIED GUIDED READING TO ADDRESS THE UNIQUE

CONSIDERATIONS OF EDUCATING DEAF CHILDREN

Educating any child is by no means an easy feat, but there are several additional

factors to consider in the education process of a deaf child. The child's cognitive

development, degree of language delay, and level of metalinguistic awareness all

contribute to the way she receives instruction. Additionally, standard reading and

writing pedagogical methods must be adapted to consider the bilingual and bimodal

needs of a deaf child learning both American Sign Language (ASL) and English. This

chapter will explain the premise of modified guided reading (MGR) instruction and

discuss how MGR handles each of these considerations.

3.1   Modified Guided Reading Instruction

Guided reading is a literacy strategy that brings small groups with similarly

matched reading skills together for the purpose of exploring texts and developing

stronger comprehension and fluency skills (Fountas & Pinnell, 1996). These groups are

usually comprised of four to six students who meet three to five times per week for 20-

30 minutes per meeting. The small size of the reading group encourages individualized

instruction on appropriate grade level books with opportunities for students to decipher

deeper meaning. Additionally, guided reading provides instruction regarding context

dependent meaning through the short lessons, from which instructors can regularly

evaluate student's progress. Active student interaction allows for natural development

in all four modes of communication – reading, writing, listening, and speaking (Fountas & Pinnell, 1996; Knox & Amador-Watson, 2002).

Modifying this approach to guided reading to meet the needs of English-language learners (ELLs) can provide the extra support these students need to gain necessary second language reading skills (Avalos, Plasencia, Chavez, and Rascón, 2007). According to Avalos et al., the basic structure of modified guided reading (MGR) incorporates the following English as a Second Language (ESL) strategies: detailed vocabulary instruction, explanation of second language text structure, and discussion of cultural relevance. MGR allows ELLs to receive language and literacy instruction simultaneously in a small group setting that allows for in-depth instruction on implicit topics that native speakers usually acquire naturally.

Avalos et al. (2007) further explain that teaching language and literacy simultaneously also provides students a framework with which to develop their basic interpersonal conversation skills (BICS) and then to use those skills as scaffolding to accelerate the development of their cognitive academic language proficiency (CALP) (Cummins, 1981). According to Cummins' theory, the development of BICS is usually a two to three year process, while CALP typically develops over a seven to ten year time period. However, CALP can progress more quickly when appropriate texts are used as the instructional means for ELLs in MGR programs that allow teachers to combine language and literacy learning.

Avalos et al. (2007) include a star-shaped graphic organizer illustrating the advantages gained through MGR by ELLs (Figure 3.1). The white portion in the middle of the star figure shows the benefits of guided reading for all students, while each of the

gray points of the star represent additional advantages ELL children receive through

MGR instruction.
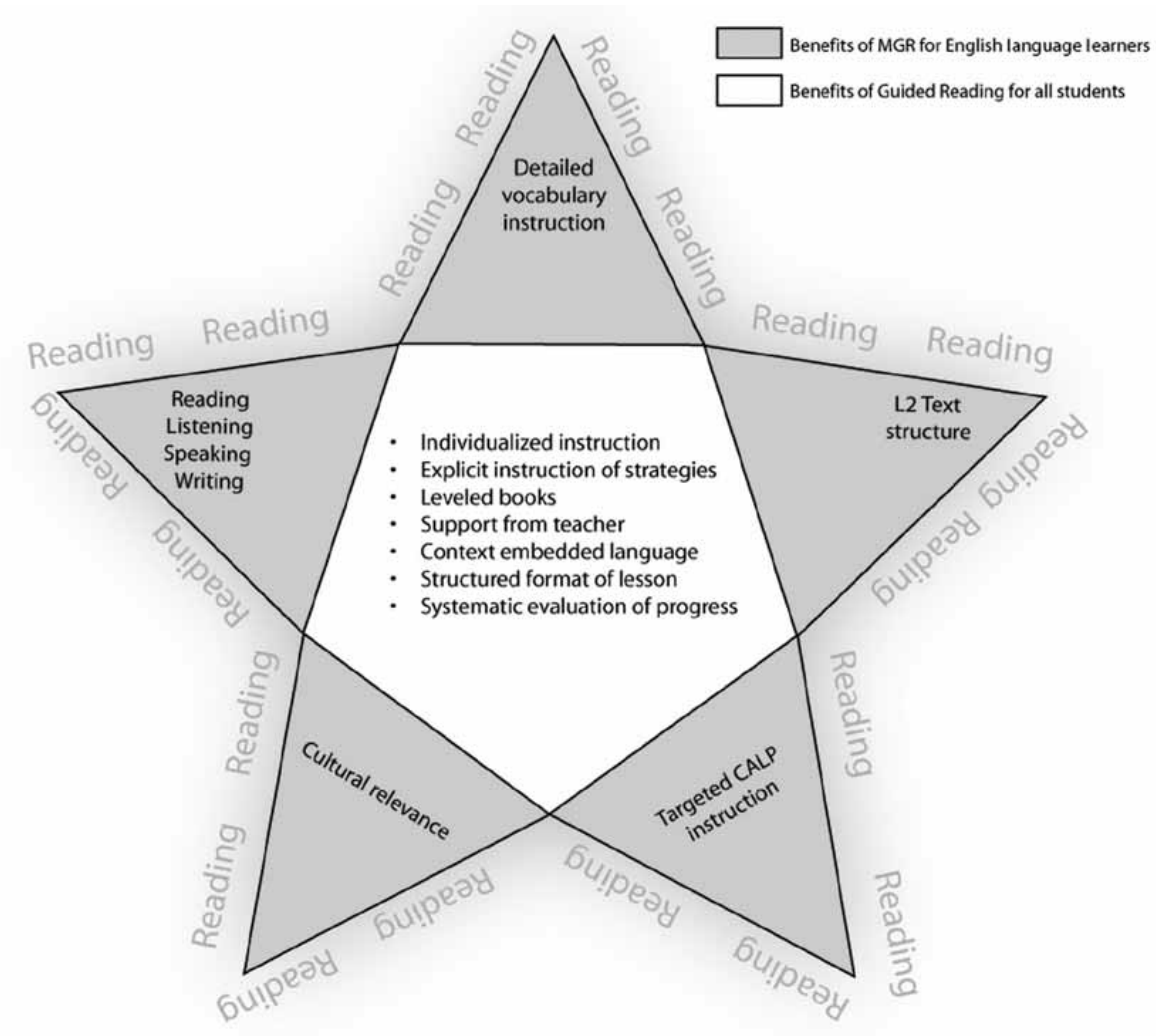
Figure 3.1. Benefits of guided reading and MGR instructional approaches (2007, p. 319).

Thus, as the graphic organizer in Figure 3.1 shows, the process of MGR instruction

goes beyond the process of guided reading by providing ELL children exposure to: 1)

detailed vocabulary instruction, 2) L2 text structure, 3) targeted CALP instruction, 4)

cultural relevance, 5) and all four modes of language learning: reading, listening, speaking, and writing.

3.2   Implementation of Modified Guided Reading with Deaf Students

With the implementation of the bilingual-bicultural philosophy in the 1960s and 1970s, the field of deaf education began to recognize and accept deaf students as bilingual learners who needed a strong base in ASL in order to develop English skills (Johnson & Liddell, 1990). As English-language learners (ELLs), deaf students need the support ESL (English as a Second Language) strategies provide hearing bilingual students (de Garcia, 2003; Wilbur, 2000). The manner in which modified guided reading (MGR) instruction incorporates ESL strategies provides the cognitive, linguistic, and instructional support that deaf students need as ELLs in the ways described in the following sections.

3.3   Cognitive Development

Mayberry (2002) states, "Cognition…is multi-faceted and reflected in the coordinated performance of numerous language and non-language tasks, including perception, memory, mental imagery, concept formation, problem solving, language learning, academic achievement, and navigating everyday life" (p. 72). The capacity deaf students have to achieve these tasks is not necessarily hindered by their inability to hear; however, the lack of hearing causes these functions to be approached in a very different manner from that of their hearing peers (Mayberry, 2002).

While certain factors like socioeconomic status and the presence of additional disabilities will affect a deaf student's academic success in patterns similar to their hearing peers (Allen, 1989; Allen 1994), the degree of hearing loss can have varying effects on the academic performance of deaf children. Deaf students with severe to profound hearing loss read on lower levels than students with mild to moderate losses, but both groups of students are able to perform mathematical computations equally well (Allen & Schoem, 1997).

MGR instruction calls for customized lessons based on the learner's level of cognitive development and provides the learner the opportunity to learn at her own rate, rather than trying to have to keep pace with regular classroom reading instruction. Customized lesson plans benefit the student by catering to the student's level of cognitive development and providing a level of instruction that is ideally neither too hard nor too easy for the student. Flexibility in pacing relieves the intensity of the visual multitasking needed for the student to incorporate visual input from texts, teachers, interpreters, other students, and visual aids. Additionally, the instructor is able to determine the best way to streamline these visual inputs to maximize the student's learning capacity.

3.4   Addressing the Language Delay

Language development is a key area of cognition that has received the attention of numerous studies (cf. de Garcia, 2003; Marschark, Lang, & Albertini, 2002; Mayberry, 2002; Quigley & Paul, 1994). Due to fact that most parents of deaf children have no previous knowledge regarding communication options available for deaf children, it is

not uncommon for deaf children of hearing parents to enter kindergarten with a significant language delay (Marschark et al., 2002).

Deaf educators must make adjustments in curriculum as they strive to keep deaf children on grade level while working to close the language gap. Many students continue to perform below grade level year after year as they attempt to establish a first language (usually ASL) while simultaneously learning to read and write a second language (English), as well as developing knowledge in other subject matters (Marschark et al., 2002). The use of ASL in this process of language development is at the heart of the debate of deaf education methods and practices, as has been previously discussed in Chapter 2.

The ability to customize modified guided reading (MGR) instruction means that lessons can be designed to close the gaps in any language delay the student presents. As the instructor monitors the student's progress, she can adjust the lessons accordingly. Another unique feature of MGR instruction is the ability to focus on both ASL and English language development within the scope of a single lesson, helping the student develop techniques for interpreting between the two languages. Teaching methods that favor only English or only ASL instruction lack the ability to help the student learn vital independent interpretation skills.

3.5   Metalinguistic Awareness

Metalinguistic awareness refers to a language learner's level of explicit knowledge about language structure and form, such as parts of speech or morphological inflections for tense. The role of metalinguistic awareness as a tool for

decoding linguistic constructions is vital to a learner's success in both first and second

language acquisition (Roehr, 2008). Additionally, as Tunmer, Herriman, & Nesdale

(1988) explain, metalinguistic awareness plays an important role in developing

beginning reading skills. In the present study, I will discuss metalinguistic awareness as

it relates to the student's acquisition of reading skills in both English and ASL.

3.5.1 The Role of Metalinguistic Awareness in Acquiring Reading Skills

Tunmer et al. (1988) outline four areas of metalinguistic awareness needed for

basic reading skills: 1) phonological, 2) word, 3) syntactic, and 4) pragmatic. According

to their framework, *phonological awareness* and *word awareness* describe the user's

ability to reflect on and manipulate the building blocks of language - phonemes and

words. *Syntactic awareness* describes the user's awareness of syntactic structures on

a sentential level. That is, syntactic awareness is the user's ability to understand

sentence structure in terms of its structural components. *Pragmatic awareness*

describes the user's awareness of relationships between syntactic structures and the

context in which they appear. Tunmer et al. define context broadly, stating that it might

be derived from a variety of sources, including prior text, prior knowledge, or situational

context.

Tunmer et al. explain that metalinguistic operations differ from regular language

operations in the area of cognitive processing. Typical language operations occur as

the result of automatic processing, while metalinguistic operations require control

processing, or purposeful attention to language structure. As they point out that, when

determining the meaning of an utterance, language users rarely notice individual

phonemes or words, the relationship between the words, or the ambiguity of an utterance. These operations happen subconsciously by means of automatic processing. Control processing, on the other hand, requires the language user to consciously reflect on these elements and purposefully extract meaning from the structure of the language.

Figure 3.2 provides a concise look at Tunmer et al.'s framework regarding the types of control processing needed by a language user to complete the metalinguistic operations necessary for comprehending a given sentence (see Tunmer & Herriman, 1984 for a detailed review).
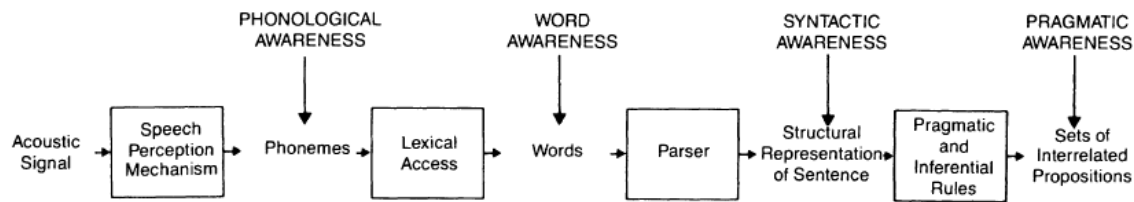
Figure 3.2. Types of metalinguistic ability classified according to the products of sentence comprehension processing mechanisms (Tunmer et al., 1988, p. 136).

Thus, each of the four components of metalinguistic awareness – phonological, word, syntactic, and pragmatic – work together sequentially to develop a framework suitable for reading comprehension. The language user can rely on this framework to provide the structure needed to comprehend a text, sentence by sentence.

3.5.2 The Role of Noticing in Acquiring Reading Skills

When a sentence requiring comprehension is presented in a user's second

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language, or L2, some would argue that the language user must additionally engage in the control processing act of *noticing* to achieve complete comprehension (Schmidt, 1990, 1993a, 1993b, 1994, 1995, 2001). Berent et al. (2007) describe the basic premise of noticing as a "theoretical and practical assumption that the [second] language learner needs to attend to, or *notice*, target language forms as a prerequisite to processing and ultimately acquiring those forms" (p. 10). The *Noticing Hypothesis*, as this theory is called, is based on the idea that language acquisition occurs when language input is available in communicative contexts (Chomsky, 1986).

The role of *noticing* in developing metalinguistic awareness and overall linguistic competency has been the subject of much debate in the field of Second Language Acquisition (SLA) over the last two decades (see Uggen, 2012 for a comprehensive review). The idea that noticing, or conscious attention, is *required* for language acquisition has been strongly challenged (Carroll, 1999, 2006a, 2006b; Gass, 1997; Robinson, 1995, 2002, 2003; Truscott, 1998; Truscott & Sharwood Smith, 2011; Williams, 2005). In fact, Gass, Svetics, & Lemelin (2003) conclusively showed that L2 acquisition occurred in the absence of focused attention. However, even John Truscott, one of the strongest opponents of the Noticing Hypothesis, concluded that noticing enhances metalinguistic awareness, although he stated noticing does not advance linguistic competence (1998). Several studies have countered these challenges to the Noticing Hypothesis, collectively showing that noticing *facilitates* L2 acquisition (Ellis, 1994; Fotos, 1993, 1994; Mackey, 2006; Mackey, Gass, & McDonough, 2000; Robinson, 1995; Swain, 1993; Swain & Lapkin, 1995, 1998, 2002). Thus, according to

Uggen (2012), "the prevalent notion today is that noticing and awareness facilitate language learning, but may not be absolutely necessary for learning to occur" (p. 508).

3.5.3 The Role of Metalinguistic Awareness and Noticing in MGR

The ESL methods used in modified guided reading (MGR) instruction[8] naturally allow for discussion between the instructor and the student regarding the categories of metalinguistic awareness identified by Tunmer et al. (1988). All four of these categories – phonological, word, syntactic, and pragmatic awareness – play a part in the student's reading process and MGR instruction allows the student to approach each type of metalinguistic awareness with more focus than provided through regular reading instruction. Additionally, by monitoring the student's progress, the instructor can identify problem areas and create lessons designed to enhance the student's metalinguistic awareness.

For example, during the course of this study, the student repeatedly encountered written descriptions of how characters responded to each other in the context of reported speech. Many of the vocabulary words (*word awareness*) were new to her, as was the form of reported speech (*syntactic awareness*), and the student could not distinguish between a character nodding in agreement or shaking his head in a disapproving manner. The student repeatedly failed to associate meaning with these written descriptions (*pragmatic awareness*) and I eventually set up a mini-lesson on this topic. After the mini-lesson, the student understood the concept and had repeated opportunity to practice interpreting the written English descriptions into ASL.

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[8] Repeated vocabulary instruction, explicit analysis of second language text structure, and discussion of cultural relevance

As the student began to associate the English form and meaning with corresponding ASL interpretations, she no longer had to analyze each word and punctuation mark. As the student's *word, syntactic, and pragmatic awareness* grew, she began to fluidly interpret the character descriptions surrounding reported speech.

Additionally, as the student reads her books during MGR instruction, she encounters the need to engage in *phonological awareness* as she signs each story she reads. Each time the student comes across a word she does not know, she fingerspells the word using the letters of the manual alphabet. The process of fingerspelling these unfamiliar words allows her to practice phonological decoding[9] and increases her *phonological awareness*.

The act of *noticing* goes hand-in-hand with developing metalinguistic awareness, especially for deaf students. Without visually attending to the current task, a deaf child will miss all linguistic input. As discussed previously, language input provides the foundation for language acquisition. Through the MGR process, I monitor the student's level of *noticing* and give her feedback with specific steps she can take to improve her level of noticing to enhance her language acquisition.

Thus, both metalinguistic awareness and noticing will be targeted forms of language learning during MGR sessions.

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[9] Phonological decoding describes the process breaking down words into their correct phonological bases for reading purposes. For hearing children, these phonological units involve corresponding auditory sounds and aid in grapheme-to-phoneme rule comprehension, which in turn improves reading skill (Snow, Burns, & Griffin, 1998). However, deaf children do not have full access to the range of speech comprised by these phonological units; alternative measures of decoding the phonology are needed. Fingerspelling, which is the use of the manual letters of the alphabet, has been targeted as a more appropriate method for phonological decoding. Research suggests that explicit fingerspelling training for deaf children can provide a phonological link with English text that enhances reading comprehension (Hirsh-Pasek, 1987; Haptonstall-Nykaza & Schick, 2007).

3.6   Teaching Reading and Writing

Although the oral versus manual debate still exists in deaf education, empirical research studies reveal that deaf children who receive consistent sign language input during early childhood years acquire the linguistic foundation they need to learn to read and write once they enter school. Deaf students of deaf parents tend to outperform deaf peers of hearing parents due to the fact that most of them are exposed to ASL from birth (Marschark et al., 2002; Wilbur, 2000). For this reason, deaf children who are exposed to sign language in the home start their school years with a strong language base and are academically in a position to respond well to second language learning techniques as they learn to read and write English (Charrow & Fletcher, 1974; Wilbur, 2000). To test this advantage, Brasel and Quiqley (1977) compared the English skills of four groups of deaf children based on the parents' preferred communication method: 1) Signed English, 2) ASL, 3) early intensive oral instruction, and 4) regular oral instruction. Their findings showed that high academic achievement results were directly tied to a child's knowledge of sign language, rather than simply being due to the presence of a deaf parent. Children educated by means of sign language instruction performed at a higher level than those with oral instruction only, suggesting that early exposure to sign language is a key factor in deaf children's scholastic performance.

A recent study by Chamberlain (2001) supports the findings of Brasel and Quigley by confirming the positive relationship between a deaf adult's level of ASL proficiency and reading ability. From this data, Mayberry (2000) emphasizes the fact that deaf children need a strong primary language base in order to engage in the reading process. Modified guided reading (MGR) instruction provides the platform for

establishing a strong first language while simultaneously developing second language skills.

3.7   Investigating the Widespread Reach of Modified Guided Reading

Few reading methods for deaf children address the cognitive, language, and instructional techniques in the way modified guided reading (MGR) does. The flexibility of MGR in lesson planning and reading instruction and the ability to customize instruction to meet the student's needs make this ESL (English as a Second Language) teaching method ideal for deaf students in a small group setting.

Although MGR instruction seems promising for deaf students, the effectiveness of this type of instruction has not been thoroughly researched. To date, there is only one other study that discusses the effectiveness of MGR with deaf students (see Schirmer & Schaffer, 2010). The positive results reported in this study and the potential benefits of MGR instruction have inspired me to further investigate the effectiveness of MGR. The goal of my research is to provide an in-depth case study on how a deaf student responds to MGR instruction and what effect, if any, MGR has on the student's reading level, word count, and reading comprehension ability.

CHAPTER 4

PERSONAL BACKGROUND

My interest in ESL methodology as it pertains to deaf education began in college when I started working as a part time interpreter with a modest-sized school district under a waiver since I was still in the process of obtaining certification. At the time, I was unaware of the need for stronger language models in the younger grades, a practice that is very much needed but rarely employed in public schools. As an employee of the school district, I had the opportunity to attend interpreting workshops, my first exposure to formal linguistic and interpreter training. I grew in my interpreting ability and linguistic understanding of American Sign Language (ASL) and began to realize the need for specialized deaf education curriculum tailored to meet the needs of deaf students.

In college, I decided to study German to fulfill my humanities course requirements. My German professor skillfully handled foreign language learning challenges and I observed with great interest the methods he used to teach German to students who could neither sound out new words nor make a guess from the spelling to obtain meaning. The practical application of transferring that pedagogical methodology to deaf students, who also cannot sound out new words or make orthographical assumptions, was constantly in the forefront of my mind as I studied the lessons and watched as this professor successfully built vocabulary and structure for his students.

As the practical applications grew, I switched my major to German. I wanted to personally experience the process of learning to read and write in a language where language acquisition could not take place through typical auditory or phonetic strategies

used to teach elementary children to read and write in their native language. As I progressed in my German coursework, I began using many of the foreign language learning strategies from my classes during tutoring time with my deaf students. When one of my students improved two reading grade levels in two months, I was convinced the idea had merit. I also tutored struggling students in German with great success using the same methods.

Now, as a graduate student, I am looking to use formal research methods to ascertain the degree of success that using ESL methods can bring about in deaf students' literacy development. The proposed case study, which analyzes methods and results from daily reading instruction with a mainstreamed deaf student, will provide further insights into how the process of modified guided reading can contribute to this development.

CHAPTER 5

METHODOLOGY AND DATA

5.1   Methods

The study is designed for fourth to sixth grade deaf students who are using sign language interpreters in the mainstream classroom setting and have the opportunity to engage in modified guided reading (MGR) with their interpreter. The models for guided reading (Fountas & Pinnell, 1996) and MGR (Avalos et al., 2007) direct the flow and instruction that occurs during the designated reading time. Further modifications are made to the group setting and lesson planning, but the structure of MGR retains the integrity of the English as a Second Language (ESL) strategies[10] inherent to this type of instruction.

As only one participant met the criteria for the study, further modifications include changing the group format to a one-on-one setting, which allows for more individualized language discussion and gives the student the opportunity to guide her learning process as much as possible. The student is allowed to choose her own texts, just as her peers do during daily reading time. As there will be no lead time to plan lessons due to the student choosing her own books, the interpreter will not provide formalized language instruction. Additionally, and perhaps more importantly, having the interpreter simply engage with the student in vocabulary and grammar discussions allows the interpreter to adhere to the appropriate boundaries of the interpreter's role, as previously discussed in Section 2.6.

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[10] Detailed vocabulary instruction, explanation of second language text structure, and discussion of cultural relevance

5.2   Participant Overview

The participant for this case study research, Kara[11], met two important
qualifications: 1) as a fourth grader, she is in the targeted age group, and 2) she has
thirty to forty-five minutes of daily reading time built into her schedule. Additionally,
since I, as the investigator, am her interpreter and have a background in ESL teaching
methods, the combination provides an ideal match for case study research on MGR.

Kara attends a Regional Day School Program for the Deaf (RDSPD) at a rural
school district in Texas that serves approximately 3,000 students. Kara is
mainstreamed for all of her classes except reading, which is taught by the head deaf
education teacher of the RDSPD. Although Kara is pulled for reading class, her daily
guided reading time is part of her spelling class, which takes place in a regular
education classroom with hearing peers.

Kara has a bilateral profound sensorineural hearing loss and is unable to hear
sounds less than 90dB in either ear. She relies on the use of an interpreter for
understanding instruction and interacting with peers. She does lip read and can voice
single words or simple phrases intelligibly, and she uses those skills to communicate
with hearing teachers and peers if the interpreter is not present.

5.2.1 Participant's Background

Kara was born deaf and received her first cochlear implant for her right ear at
age one. Kara's family does not sign much and Kara depends almost completely on
reading lips and using the hearing gained with her right processor to communicate with

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[11] The student's name and certain identifying information have been changed to protect the student's
privacy.

her family. Kara received her second cochlear implant on her left cochlea at age five.

While she is very dependent on the hearing she has using the right processor, she

rarely wears the left processor. When she does wear the left processor, she often

complains of it itching or bothering her in some way, and she will take it off after a few

minutes. Kara meets with a speech therapist during school hours for thirty minute

sessions twice each week in a group setting. She is also enrolled in a speech program

outside of school at the local hospital which she attends twice a week for thirty minutes

each time.

5.2.2 Participant's School Environment

The signing systems used at Kara's school are Signed Exact English (SEE) and

American Sign Language (ASL). The lead deaf education teacher, who is also a

certified SEE interpreter, uses SEE with all the students and does not sign ASL herself,

although she receptively understands her students who sign ASL. Prior to her fourth

grade year, Kara's interpreters had also used SEE when communicating with her.

However, the lead deaf education teacher had noticed Kara's natural use of ASL

grammar despite the SEE language modeling and supported my use of ASL with Kara

this year.

5.2.3 Participant's Personality

Kara's third grade teachers and the rest of the deaf education staff (interpreters

and communication assistants) report that, prior to fourth grade, Kara had been

somewhat withdrawn and was fairly non-interactive. Kara struggled to pay attention to

her interpreter and teachers and had little social communication. However, Kara was interested in sports and her family has supported her involvement in sports year round. Despite having been withdrawn at school, Kara has shown strong athletic ability and has a competitive personality by nature. Kara has been known for her tendency to rush to complete assignments and has a hard time slowing down long enough to receive a complete set of instructions before starting an assignment.

With new strategies I have implemented this year that actively promote Kara's language development in ASL and her inclusion and participation in the classroom, Kara's involvement at school had changed dramatically from that of her previous elementary years. She is no longer withdrawn and will eagerly participate in classroom discussions. She asks her teachers questions and often chats with the other students, either on her own or through an interpreter. The deaf education staff have all noted and commented on this fundamental change in her communicativeness and improvement in signing ability over this past year.

As with all children, Kara's personality traits will guide her learning experience and influence the way in which she chooses to work. I will be discussing the origins of certain responses that may stem from Kara's personality versus those that are in response to various ESL strategies that I have employed. For example, Kara remains very competitive; her tendency to rush means that she can miss crucial information and not know how to complete a lesson. At these times, it is Kara's hurriedness that causes her to miss information, not the lack of adequate instruction. On the other hand, Kara's competitiveness drives her to make good grades and to complete tasks so that she can earn rewards according to the incentive measures her teachers have set up for her.

Because of this drive, she has learned that she can push herself to learn difficult material even when she would rather give up.

5.3 Data Collection

Three types of data will be collected over eleven weeks for this study: 1) observations made during modified guided reading (MGR) sessions and elicited from Kara's educational team, 2) Accelerated Reader test results and 3) benchmark test results. Each type of data will be documented digitally on password protected files.

5.3.1 Observations

During modified guided reading (MGR) time with Kara, I note the effectiveness of the different ESL strategies inherent to MGR as discussed previously. I also document the way in which Kara's response to these strategies answers the four research questions previously outlined in Section 1.2:

1. Does the modified guided reading process improve the student's ATOS reading level, stamina (as measured by word count), and AR comprehension ability?

2. Does the student's independent reading comprehension level improve at the same rate as her ASL-assisted reading level?

3. Does the modified guided reading (MGR) structure impact the level of the student's metalinguistic awareness both in ASL and in English?

4. Will the use of the three ESL strategies[12] inherent to modified guided reading

   instruction improve the student's ability to translate between ASL and English

   independently?

I document observations after each MGR session (approximately 4-5 times per week) to address each of these questions.

While my observations of Kara's response to the ESL methods used will constitute the bulk of observational data for this study, I also include observations from Kara's teachers regarding Kara's attitude, work ethic, academic achievement, and class participation. These observations serve as an outside qualitative view of the effectiveness of the work being done during modified guided reading time.

5.3.2 Accelerated Reader Scores

As explained in Section 1.2, the Accelerated Reader (AR) program will be used to determine Kara's ATOS reading level, word count, and comprehension test scores over an eleven week period. I will then calculate the weekly averages and overall averages for each score. Due to the fact that no control group exists for this study, I will compare Kara's pre-MGR scores to her MGR scores collected during the eleven-week study.

5.3.3 Benchmark Tests

The state of Texas uses benchmark testing to determine the number of students from third grade forward that are performing at or above grade level in core

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[12] Vocabulary instruction, second text analysis, and cultural relevance discussion (see Avalos et al., 2007)

subjects ("Texas Education Agency," 2007). The Texas Education Agency (TEA) uses

these scores to rate recognized and exemplary schools. Benchmark test results are

included in a student's permanent file and are available for reference to any teacher as

needed. Where applicable, Kara's benchmark test results will be referenced regarding

her competency levels for predetermined measurable reading skills.

5.3.4   Summary

Data is collected from the following areas for this study: 1) observations, 2)

scores from the AR program regarding Kara's reading level, word count, and

comprehension level, and 3) benchmark test results. There is no control group for this

case study, so previous AR scores and benchmark test results will provide the data for

a comparative analysis of Kara's performance pre-MGR and post-MGR.

5.4   Further Modifications

In addition to modifying the group size and allowing for student-led learning, the

modified guided reading structure (MGR) will be adapted in ways that optimize Kara's

needs concerning: 1) classroom settings and spatial considerations, 2) visual input

sources, and 3) additional materials and resources needed. Although these

modifications are made to cater to Kara's needs, the same modifications would be

appropriate for other deaf students during MGR instruction.

5.4.1 Classroom Setting and Spatial Considerations

Kara's MGR sessions take place in the regular classroom. During this time, all of the students in the classroom are engaged in AR reading and testing. Keeping Kara in the classroom instead of pulling her out, as described in the Avalos et al. (2007) model, allows Kara to participate in the classroom reading time with the other students and still receive the benefits of MGR instruction. However, if other students joined Kara's MGR group, the group would most likely need to move out of the classroom to avoid distracting the other students.

As can be seen in Figure 5.1, the desks in Kara's classrooms are arranged in three double rows, with a space between each set of double rows. Each double row is created by setting two desks such that the desks touch and the students face each other. There are three to four desks on each side of the double row, with a total of six to eight desks in each group. The double rows are in vertical columns so that each student can turn his/her head to the side and see the board and projector at the front of the room. Kara sits in the last group of double rows. This group has a total of six desks and Kara sits in the desk that is the closest to the teacher's desk. Her back is to the windows behind her so that she can easily see the board, the interpreter, and the teacher.
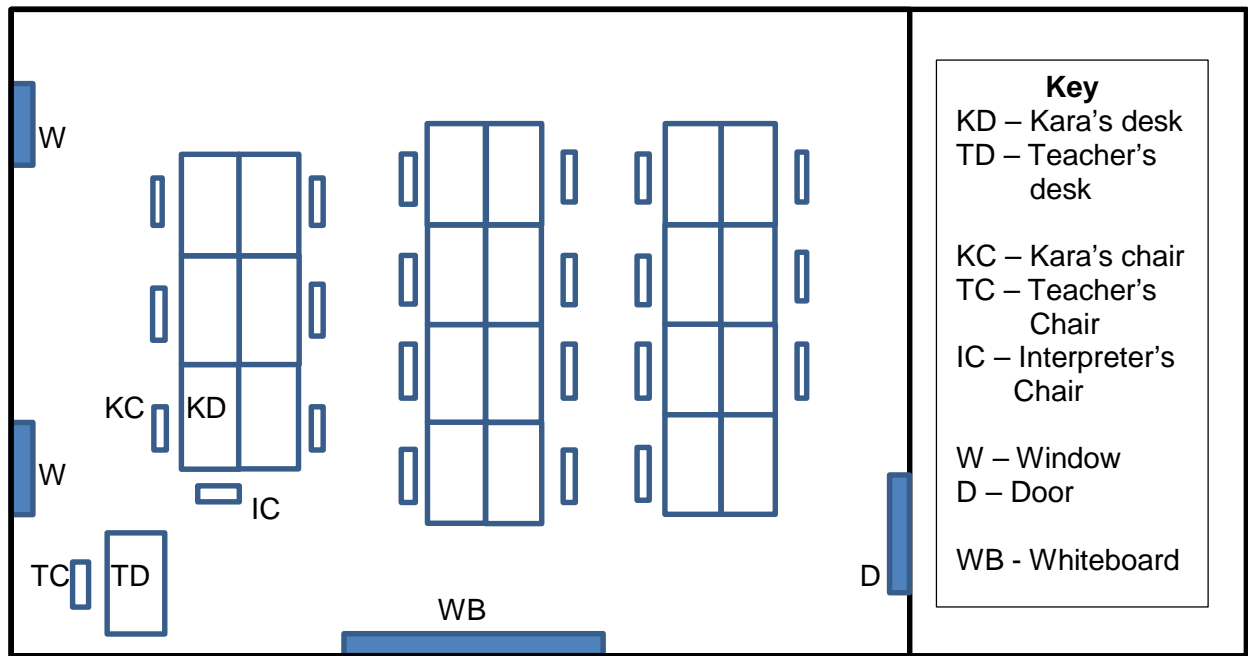
Figure 5.1. Classroom configuration.

5.4.2 Coordinating Visual Input

During an MGR session, Kara needs to be able to clearly see the book, the interpreter, the notes (if any are taken), and any extra materials or resources being used for that session. By making a few modifications, Kara can transition between these visual sources more efficiently. Normally, I sit at 180 degrees from Kara to interpret so that I am at a 45 degree angle to the white board at the front of the room as shown in Figure 5.2.
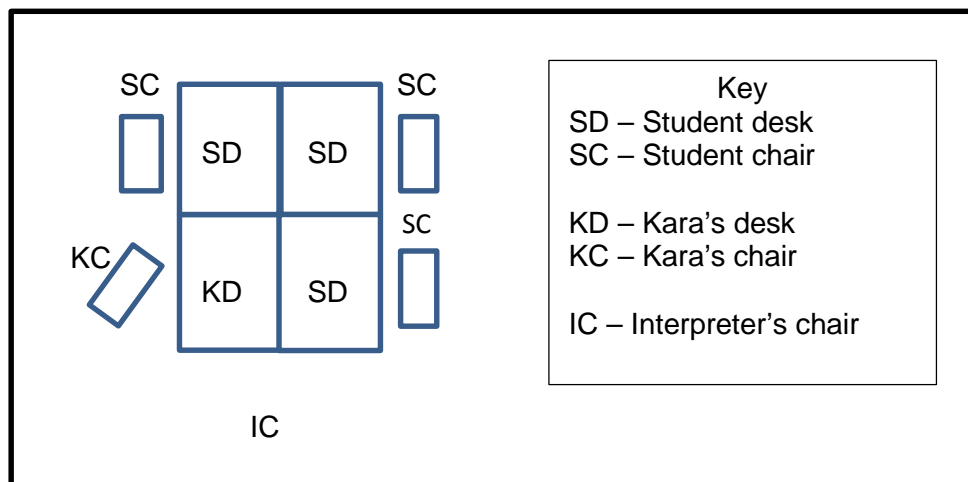
Figure 5.2. Chair and desk configuration for classroom interpreting.

For MGR sessions, I turn my chair so that Kara and I are both facing her desk where the book is placed. I turn my chair slightly so that there is about a 35 degree angle between us as shown in Figure 5.3. This setup puts me in close enough proximity to view the words on the page of the book and even touch them as Kara is reading, but far enough away that Kara can comfortably view any signed discussion we have. Kara is also able to glance around the room quickly if something catches her attention.
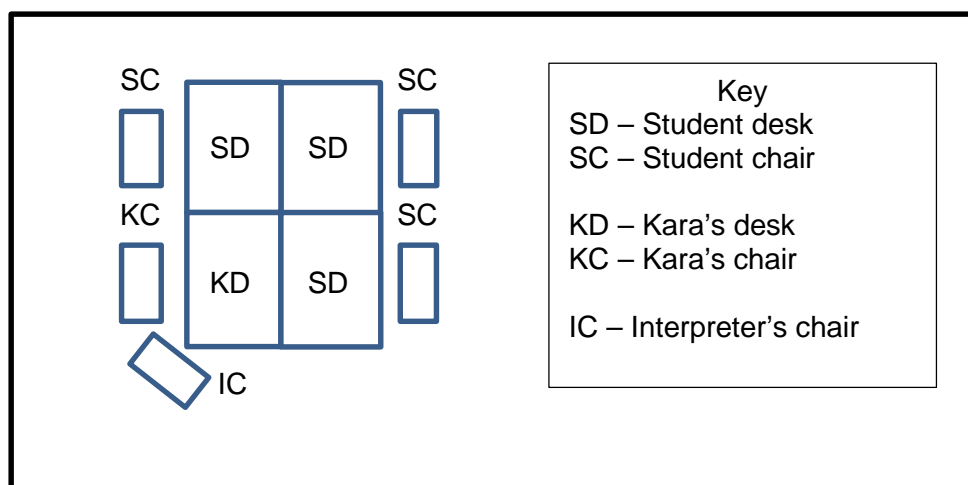
Figure 5.3. Chair and desk configuration for MGR.

5.4.3 Materials and Resources

In addition to the book Kara is reading, our MGR materials include a pencil with a rubber eraser topper, a bookmark, and a spiral notebook. Kara uses the bookmark to pace her reading line by line so that she doesn't skip lines or words in a line. On longer books, I allow Kara to read to herself, but I follow her eye movement and use the pencil with the rubber eraser topper to tap words key words in a sentence. The eraser tap is Kara's cue to sign that particular word. I will discuss more about this process in Section 5.5.2 ("To Sign or Not to Sign"). If we are reading a book longer than thirty pages, I require Kara to make notes in the notebook as she reads so that she can remember the previous events.

The two main resources Kara has access to are Google Images and a globe. Whenever Kara comes across a word or concept that she does not know, I give her an explanation in ASL. If Kara is still unsure, I will determine whether either of these resources would be beneficial or if drawing a picture would help. In several instances, Google Images has been able to quickly provide an image that Kara is familiar with but did not know either the sign or the English word associated with that image. For example, the word "robber" was in one of Kara's stories. Even after explaining a robber was someone who stole things or took items without permission, Kara kept telling me that she did not know what a robber was. After quickly finding a picture on Google Images that portrayed an iconic bank robber, Kara was able understand the concept and has retained the meaning of the word.

5.5   From Beginning to End: The Reading Process

The modified guided reading (MGR) process, after being adjusted to accommodate Kara's needs, is composed of six steps: 1) introducing the book, 2) deciding whether Kara should sign the story or read it to herself, 3) checking for reading comprehension, 4) taking notes (for longer texts), 5) discussing the content of the text, and 6) reviewing and testing. The steps happen in the same order for each new book that Kara begins reading during MGR sessions.

5.5.1   Introducing the Book

As previously mentioned, Kara chooses her own books from the library. The students are allowed to check out three books at a time, so Kara also determines the order in which we read each of the three books. Each time we start a new book, Kara looks at the reading level and total AR point value assigned to the book. She also flips through the book to see how many pages it has and whether pictures are included or not. By gathering this information, she prepares herself for the difficultly level, length, and overall cohesiveness of the story.

5.5.2   To Sign or Not to Sign

I initially require Kara to sign the entire book as she reads. This process allows me to see which words Kara knows (and knows the sign for) and which words she struggles with or signs incorrectly. Also, as Kara signs to herself, she is coding the English, her L2, back into sign language, her L1, which allows for greater comprehension. I follow along as Kara signs and use the pencil eraser to tap words she

skips or signs incorrectly. Kara will then either sign the word she missed or provide the correct sign (if she knows it) for the word she signed incorrectly. If she does not know the word, she will look up at me. I will then give her the sign, explain the concept, and indicate whether that concept is signed or fingerspelled, or use a resource like the globe or Google Images to provide a visual picture of the concept.

As the study progresses, Kara's stamina improves and she is able to read longer books at higher reading levels. Signing each word becomes an inefficient use of time as Kara's reading fluency increases. For longer texts that are two or more grade levels above Kara's independent reading level, I allow Kara to read to herself, using her bookmark as a pacer she that she can read the text line-by-line. I follow her eye movement line by line and can easily tell if she is reading too quickly or skipping several words in a row. In either case, I ask her to slow down and have her reread the sentence.

5.5.3 Checking for Reading Comprehension

The following section describes the process I used to check Kara's reading comprehension once she has started a story. The same process is used for each story Kara chooses to read during MGR sessions.

Every few sentences, I have Kara pause so we can discuss what she has just read. We also make notes[13] so that can Kara can remember the previous events. Kara is learning when to pause, and, during the course of the study, begins to naturally look up from the selection without being prompted so that we can discuss the content. At

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[13] See Section 5.5.4 (Note-Taking).

times, when Kara keeps reading past the closing point of a main idea, I gently tap her arm to signal that she needs to look up. If Kara cannot sign to me using her own words what she has just read, I ask leading questions. If Kara cannot answer those questions, I sign the main concepts and key words for her and then point to the key words in the relevant sentences. As these key words are repeated throughout the book, I tap them with the pencil eraser to make sure Kara signs these important vocabulary words. I also continue to question her about the main concepts until she can put them into her own words.

Occasionally, in the longer texts, I can tell that the upcoming paragraph is going to introduce several concepts or vocabulary words that are beyond Kara's ability to comprehend independently. In these instances, I will stop Kara to introduce the paragraph before she begins reading and point out key words she will need to know. I then let Kara read the paragraph on her own and ask her summarize the events in her own words after she is finished reading.

5.5.4 Note-Taking

As the MGR sessions are limited in time, Kara is not able to finish the longer books in one session. In fact, the duration of reading time for these longer books can be up to three weeks or more. In order to help retain the earlier events over this time period and to help Kara summarize each important event along the way, I introduced the concept of note-taking to Kara. While not a direct part of MGR, note-taking pushes Kara to analyze each event in context of the overall storyline and encourages her to look for key words.

At the beginning of the study, I modeled several examples of note-taking for Kara by showing her how to summarize and record the main idea of important events. I also numbered each event so Kara could see the progression of events throughout the storyline. Note-taking was a brand new concept for Kara and she struggled to identify and summarize key events. I did not want note-taking to become overwhelming for Kara or unnecessarily distract from the content of the book she was reading, so Kara and I took turns writing notes. This strategy allowed Kara to continue to see note-taking modeled, but gave her plenty of opportunity to practice note-taking as well.

I also used the notebook paper to draw pictures of concepts when needed. The pictures proved especially helpful when directions were given or the placement of objects was described. Drawing pictures allowed us to break down the steps into a visual process that Kara could follow. (See Appendix A for Kara's notes on *The Tiger Rising*[14].)

5.5.5 Discussing Content

Discussion of key concepts that Kara reads is perhaps the most significant factor in building both ASL and English skills for the following reasons:

1. Visual pictures and images (from the books with pictures) are immediately put into ASL and Kara is able to recognize and incorporate the ASL structure for specific events.

2. English words are interpreted into ASL during the discussion and then reinforced in English as those key words are repeated throughout the story.

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[14] DiCamillo, K. (2003). The Tiger Rising. Cambridge, MA: Candlewick Press.

3.   Kara is able to relate her own real life experiences to those of the story characters during discussion time. As she is relaying these experiences, she is able to incorporate the correct ASL grammatical structure from the events we have just discussed. This provides opportunity for developing syntactic and pragmatic awareness, as well as resulting in stronger storytelling skills for Kara. Also, it gives Kara the ability to communicate her personal experiences using ASL, often for the first time.

4.   Kara is learning to "chunk" word groups she sees in English and to provide the equivalent ASL conceptual interpretation, instead of signing each word of the phrase. For example, the conceptual ASL interpretation for "clear your throat" is depicted by the signer tapping their fist on their chest to show the action of clearing their throat. The word for word signed interpretation would use the sign CLEAR, which conceptually refers to understanding a concept or to something being transparent in color, not to the act of clearing one's throat. The conceptual ASL interpretation allows for the true meaning of the phrase to be conveyed, assisting in reading comprehension, while the word for word interpretation does not. Being able to chunk phrases in this way aids both Kara's reading fluency in addition to her reading comprehension.

Discussion of key events also enhances Kara's understanding of the world around her and allows her to process events that happen to the characters using a natural language, which leads to increased cognitive awareness and an understanding of cause and effect.

5.5.6 Review and Testing

After Kara finishes a book, she reviews the content by either reading the book a second time on her own (if the book is less than 30 pages) or by reviewing the notes we have taken. She then logs into the AR testing system and types in the unique code assigned to each book. Once Kara starts the test, she signs the question and answers to herself. Kara's Individual Education Plan (IEP) also allows for any part of the test to be interpreted. If Kara is unsure of a question, she will ask me to interpret the question and the answers before she chooses an answer.

The AR test is either five or ten questions long, depending on the reading level and content of the book. Once Kara has finished answering all of the questions, the screen will display the percentage she got correct. Kara then goes to the home page and accesses her student report to see how many total points she has earned over the year. She records both the grade and the number of points on her paper AR log that she keeps in her binder.

If we have time after Kara finishes an AR test, we will start another book. If Kara has finished all of her books, she will ask to go to the library to check out new ones.

5.6 Summary

This case study investigates the effects of ESL strategies implemented through modified guided reading (MGR) sessions on the language acquisition process of Kara, a fourth-grade deaf student in a rural school district. For purposes of this study, I have further modified the process of MGR described by Avalos et al. (2007) to meet Kara's needs in the following three areas: 1) classroom and spatial considerations, 2)

coordination of visual input, and 3) appropriate use of available materials and resources. The MGR sessions then take place through a series of six steps: 1) introducing the book to be read, 2) determining whether Kara should sign each word in the book, 3) checking for reading comprehension, 4) note-taking, 5) discussing content, and 6) reviewing and testing.

I conduct the study over an eleven week period and collect data regarding Kara's progress in the following Accelerated Reader (AR) scores: 1) ATOS reading level, 2) word count, and 3) reading comprehension test scores. Additionally, Kara's development in metalinguistic awareness is noted in the following areas: *phonological, word, syntactic,* and *pragmatic awareness.* I use observations, AR scores, and benchmark scores to provide an analysis of Kara's metalinguistic progress.

CHAPTER 6

RESULTS

6.1   Overall ATOS Reading Level, Word Count, and Comprehension Test Averages

In total, the study included eleven weeks of modified guided reading (MGR) sessions with Kara. I monitored Kara's progress with the Accelerated Reader (AR) program as outlined in Section 1.2. In the course of the study, Kara read a total of 24 books with ATOS[15] reading levels ranging from 1.0 to 5.2 for a total word count of 50,475 words. Weighted by word count, Kara's average ATOS reading level was 3.8 and she scored an average of 94.6% on the AR comprehension tests.

Table 6.1 shows the weekly breakdown of each of Kara's scores calculated in conjunction with the AR program used to analyze reading comprehension.

Table 6.1

MGR Weekly Summary

Week	Book Count	Reading Level Range	Reading Level Avg.	Comp. Test Score Avg.	Word Count
1	8	1.0 – 2.9	1.8	97.5	1,858
4	6	1.6 – 3.0	2.3	100	1,678
5	3	1.6 – 3.4	2.5	90	886
7*	2	2.0 – 4.0	3.0	95	20,123
9*	1	5.2	5.2	100	19,784
11	2	2.4 – 2.6	2.5	90	877
12	2	3.0 – 3.1	3.1	90	5,269
Total	24				50,475
Weekly Average	**2.2**		**3.8**†	**94.6**	**4,589**

* Elevated word count scores due to Kara completing and testing on a longer book
  during this particular week
† Reading level average is weighted according to word count

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[15] The Advantages/TASA Open Standard for Readability score. See Section 1.2 for more information.

Due to either schedule conflicts or the length of the book Kara was reading, she was only ready to complete AR comprehension tests during seven out of the eleven weeks, as shown in Table 6.1. Each week has been averaged to constitute one set of data regarding number of books read, ATOS reading level range, average ATOS reading level, and word count. Weeks that Kara did not take an AR comprehension test are not included in the table. As a result, Week 7 and Week 9 both show highly elevated word counts due to the fact that Kara finished and tested on a high word count book during each of these weeks. In reality, the word count for each of these two weeks was spread out over a two to three week period.

6.2   Comparative ATOS Reading Level, Word Count, and Comprehension Test
        Averages

Table 6.1 provides part of the information needed to answer the first research question posited by this study: Does the modified guided reading process improve the student's ATOS reading level, stamina (as measured by word count), and AR comprehension ability?

As no control group was available for this study, a within subject comparison provides the other part of the information needed to assess the effect of ESL strategies used during MGR sessions on the learner's ATOS reading level, word count, and comprehension level. To determine the comparative data needed, I calculated Kara's weekly ATOS reading level, word count, and comprehension test score averages from the eleven weeks prior to the study. Due to her school schedule, Kara had only taken AR tests during seven of the eleven weeks prior to the MGR sessions. Each week's

scores were averaged as one data set. Thus, there were a total of seven data sets for

the eleven weeks of pre-MGR data, as seen in Table 6.2.

Table 6.2

Pre-MGR Weekly Summary

Week	Book Count	Reading Level Range	Reading Level Avg.	Comp. Test Score Avg.	Word Count
1	3	3.1 – 4.0	3.4	80	7,523
2	2	3.1 – 4.1	3.6	70	5,759
3	5	2.1 – 2.6	2.4	96	4,122
4	10	2.1 – 2.8	2.4	83	4,584
5	5	2.0 – 3.2	2.8	92	2,983
6	2	2.5 – 2.6	2.6	90	563
7	7	1.0 – 3.3	2.2	74	2,867
Total	34				28,401
Weekly Average	**4.8**		**2.9***	**83.6**	**4,057**

* Reading level average is weighted according to word count

6.2.1 Overall Averages

I then compared the seven pre-MGR data sets with the seven data sets collected

while Kara was attending MGR sessions. Table 6.3 shows the comparative results in

Kara's average ATOS reading level, word count, and comprehension test scores. I

have also included the comparative results for Kara's overall word count, which

represents the total number of words read throughout the course of the study, as it

shows the change in Kara's overall stamina[16] level as a result of MGR. The fourth

column in Table 6.3 shows the percent change in each of these categories from Kara's

pre-MGR scores to her post-MGR scores.

Table 6.3

Comparative Results

Average AR Score	Pre-MGR	Post-MGR	Percent Difference
ATOS Reading Level*	2.9	3.8	+31.0
Weekly Word Count	4,057	4,589	+13.1
Overall Word Count†	28,401	50,475	+77.7
Comprehension Test Score	83.6	94.6	+13.2

* Weighted by word count
† Cumulative count; not an average score

As Table 6.3 shows, Kara increased in all four measurable AR scores with her

overall word count showing the most dramatic increase.[17] Thus Kara's test results

suggest that the ESL strategies implemented during daily MGR sessions have had a

positive effect on her ATOS reading level, word count, and comprehension ability.

6.2.2 ATOS Reading Level Averages

Figure 6.1 shows the data point comparisons by data set for Kara's pre-MGR

reading level and post-MGR ATOS reading level averages. It should be noted that both

data sets were collected over an eleven week period, although each eleven week period

only generated seven result sets. The results are for general comparative purposes,

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[16] Stamina describes the reader's ability to stay with a text for increasingly longer periods of time (Gulla, 2012) and is determined by word count for this study.

[17] I address this increase in detail in Section 6.2.3 ("Word Count Averages").

not for week by week comparisons due to the fact that Kara did not test in exactly the same week during both periods of data collection. For example, in the pre-MGR data, Kara did not take any tests in Week 1. During the MGR data collection period though, Kara did test during Week 1. Thus the Pre-MGR Week 1 and MGR Week 1 do not correspond in the exact chronological manner needed for week by week comparison. However, the overall testing period of eleven weeks is a short enough time span to allow for data set by data set comparison with the understanding that corresponding data sets in each time period may have been collected during different chronological weeks.
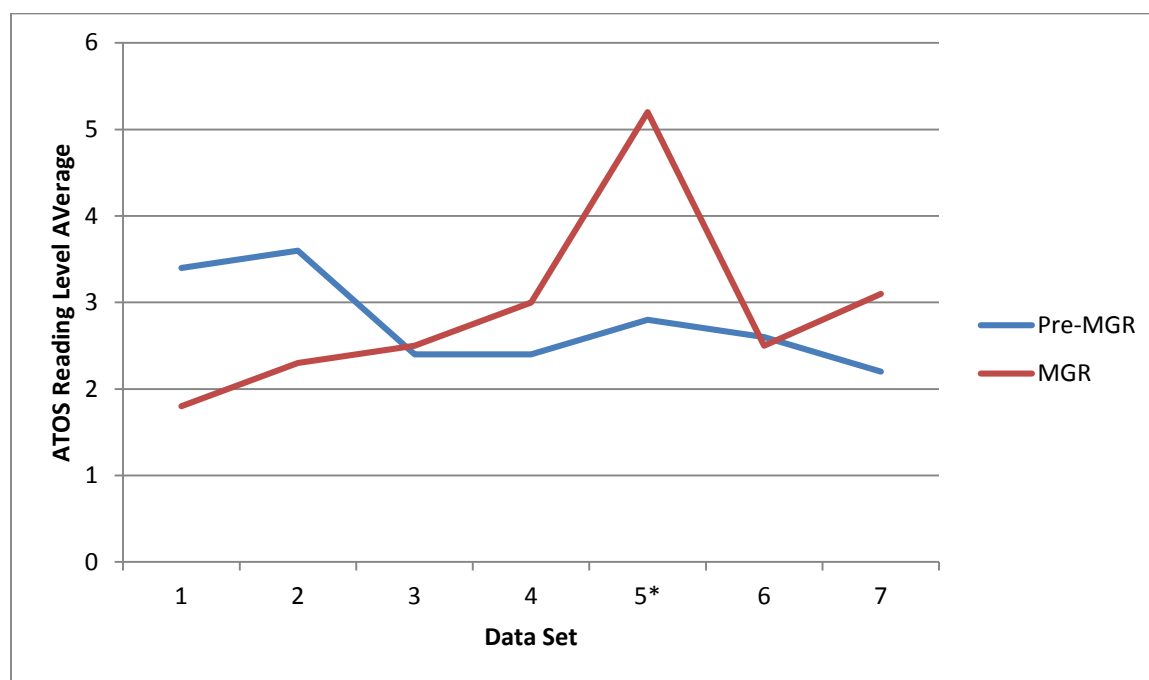
Figure 6.1. Pre-MGR and MGR ATOS average reading level comparison by data sets. *Due to testing on only one high level book during Week 5, Kara's reading level average is unusually high for this week.

Figure 6.1 shows an overall increased trend in Kara's ATOS reading level averages during MGR sessions when compared with pre-MGR sessions. At first glance

it appears that MGR sessions were not immediately successful due to the fact that Kara

scored higher pre-MGR ATOS reading level averages for the first two data sets.

However, the overlapping line graphs do not show the rise and fall of Kara's scores

chronologically. Since the data sets were collected along a linear timeline, not

simultaneously, Figure 6.2 more accurately establishes the baseline and shows the

immediate increase in Kara's ATOS reading levels once she began receiving MGR

instruction.
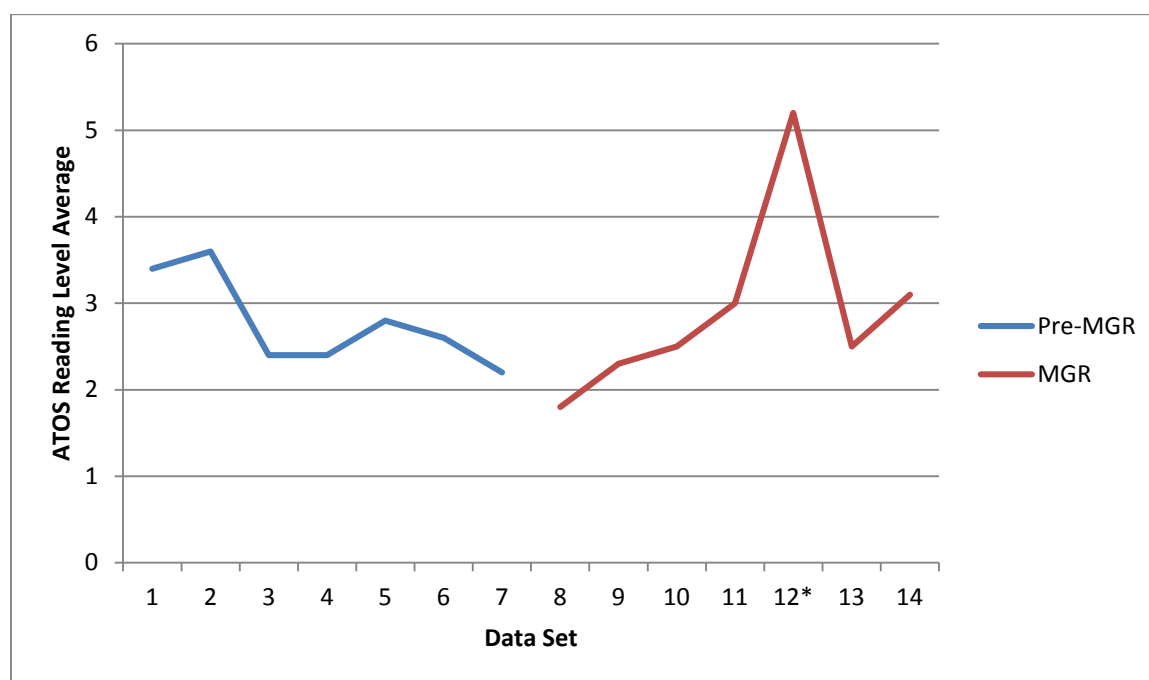
Figure 6.2. Chronology of pre-MGR and MGR ATOS reading level averages.
*Due to testing on only one high level book during Week 5, Kara's reading level average
is unusually high for this week.

Additionally, both Figure 6.1 (Data Set 5) and 6.2 (Data Set 12) show an elevated

increase in Kara's reading level during the week she completed and tested on a book

with an ATOS reading level of 5.2. As that was the only book she tested on during that

week, her average reading level for that week is more than two grade levels higher than

either the week before or the week after. While the elevated increase is not

representative of Kara's overall reading level, it shows her increased ability to

understand higher level texts as the result of MGR instruction.

6.2.3 Word Count Averages

The same decline and subsequent rise of Kara's word count score seen in her

reading level score occurs when the pre-MGR and MGR data sets for word count

averages are compared by data set as seen in Figure 6.3. Initially, it appears that pre-

MGR word count averages are higher than MGR word count averages, suggesting that

the absence of MGR methods enhanced, or at the very least, did not affect reading

stamina (i.e., word count). This is not the case, however, as is shown in Figure 6.4.
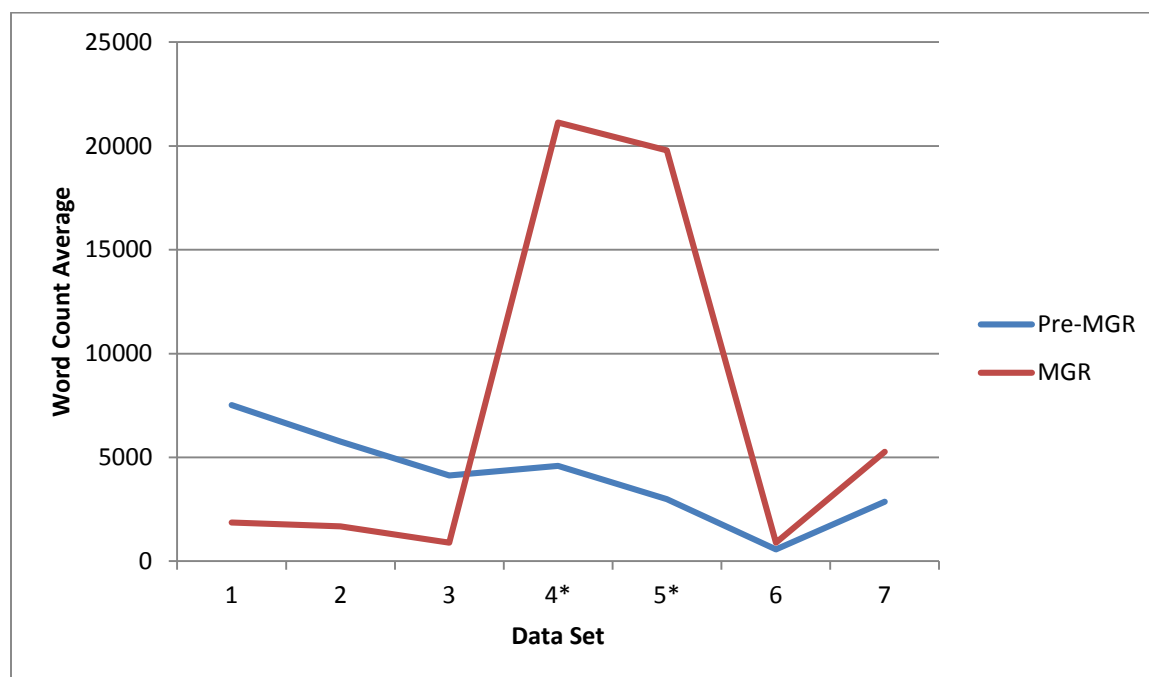
Figure 6.3. Pre-MGR and MGR word count average comparison by data sets.
The high word counts seen in Data Sets 4 and 5 are due to Kara completing two
chapter books, each over 200 pages. Each of these books took Kara at least two
weeks to read, but the resulting word count was documented during the each of the two
weeks she took the test for each book. Although the sharp increases in Kara's word

count do not represent the average word count overall (as seen in Table 6.3), they are important to note because they represent a significant increase in Kara's reading stamina.

When pre-MGR and MGR word counts are compared on a chronological scale, as shown in Figure 6.4, it becomes clear that Kara had experienced a regression in stamina (as evidenced by word count) prior to MGR sessions. However, through the process of MGR instruction, Kara was able to regain and greatly surpass previous stamina levels.
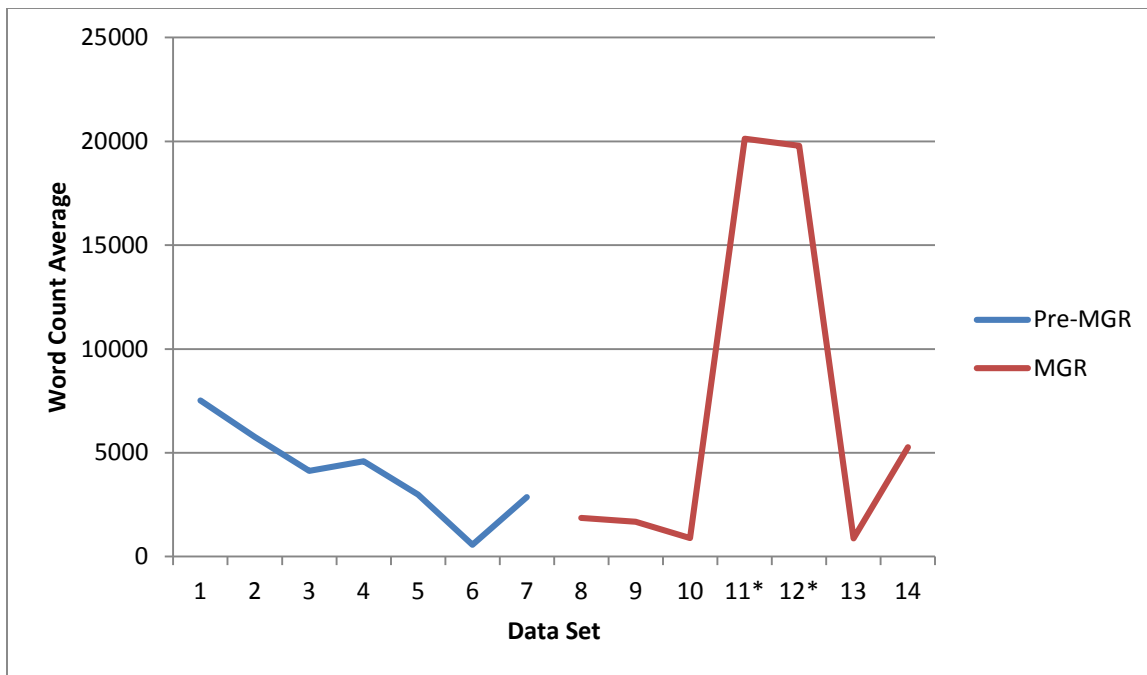
Figure 6.4. Chronology of pre-MGR and MGR word count averages.
The high word counts seen in Data Sets 4 and 5 are due to Kara completing two chapter books, each over 200 pages. Each of these books took Kara at least two weeks to read, but the resulting word count was documented during the each of the two weeks she took the test for each book. Although the sharp increases in Kara's word count do not represent the average word count overall (as seen in Table 6.3), they are important to note because they represent a significant increase in Kara's reading stamina.

As mentioned in the note below Figure 6.3 and Figure 6.4, the spikes in word count seen in the MGR average are due to Kara finishing a longer book in a particular week and taking the comprehension test for that particular book. While the spikes would have occurred over a two or three week time period, the word counts for these data sets still show a significant increase in stamina, or Kara's ability to read for increasingly longer lengths of time. I propose reasons for this dramatic increase in stamina in Chapter 7.

6.2.4 Comprehension Test Score Averages

The data set comparison for comprehension test score averages does not portray the same phenomena as the ATOS reading level and word count comparisons. From the first data set, Kara performs at a higher level on reading comprehension tests. She does have one data set (the third data set) that dips below the corresponding data set for pre-MGR levels as seen in Figure 6.5, but all other scores are equivalent or higher, showing a definite increase in comprehension ability throughout the course of MGR sessions.
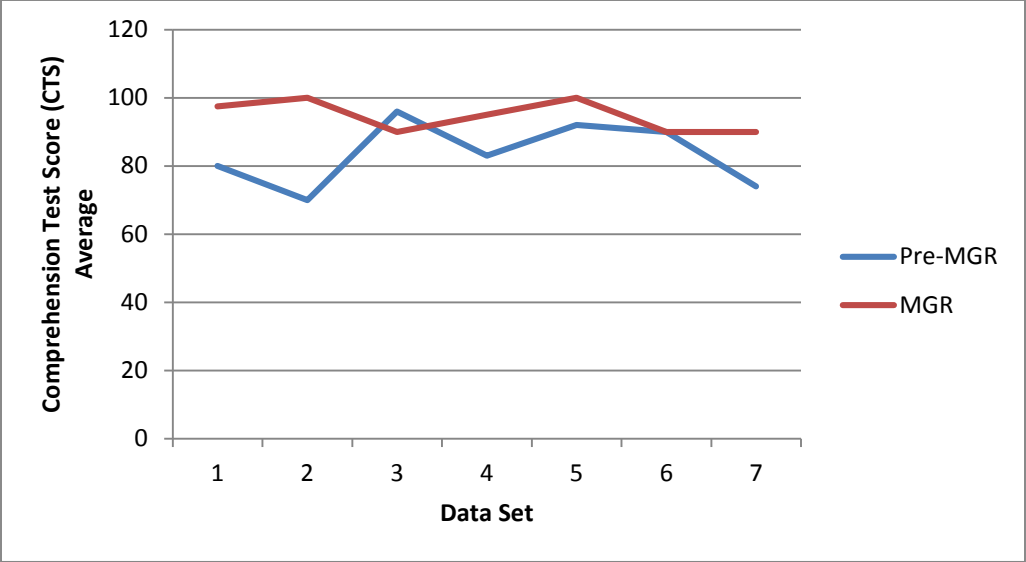
Figure 6.5. Pre-MGR and MGR comprehension test average comparison by data sets.

A chronological comparison of comprehension test score averages, as shown in Figure 6.6, more clearly depicts the overall increase in scores. Another interesting pattern to note is that both data sets end with a test score averages decreasing rather than increasing. Neither the ATOS reading level nor the word count comparison shows this ending decrease. Implications of this pattern will be explored in Chapter 7 as well.
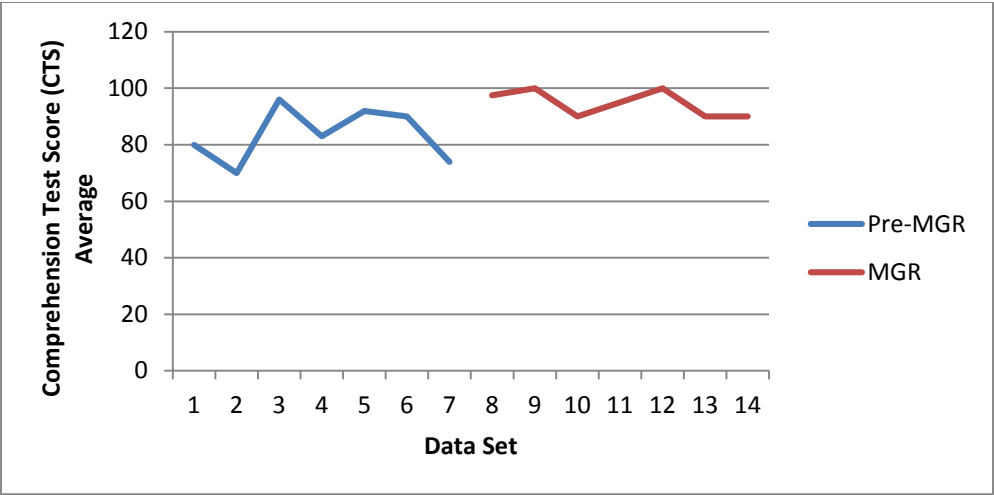
Figure 6.6. Chronology of pre-MGR and MGR comprehension test averages.

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6.3   Rate of Growth in Independent and ASL Reading Comprehension Levels

In contrast to the ATOS reading levels discussed in the previous section, the reading levels in Table 6.4 represent Kara's zone of proximal development (ZPD) as determined by Star Enterprise Reading system ("Star Reading Enterprise," 2013). I administered the Star test three different ways with Kara reading: 1) independently, 2) assisted by a Signing Exact English (SEE) interpretation provided by a certified SEE interpreter, and 3) assisted by an ASL interpretation provided by a certified ASL interpreter.

Table 6.4

Reading Levels by Method of Test Administration

Reading Level Testing Method	Beginning ZPD	Midpoint ZPD	Ending ZPD
Independent	0.9 – 1.9	1.4 – 2.4	1.1 – 2.1
Signing Exact English	1.5 – 2.5	--- *	1.5 – 2.5
American Sign Language	2.8 – 3.9	1.4 – 2.4	1.7 – 2.7[†] 2.8 – 4.1

* Kara was not tested for a midpoint SEE-assisted ZPD score.
† Kara tested twice on two consecutive days to determine her ASL-assisted ZPD. On the first day, she scored 1.7 – 2.7. On the second day, she scored 2.8 – 4.1. Implications of the difference in scores will be discussed in the following paragraphs.

As can be seen by Table 6.4, the upper level of Kara's independent ZPD initially started at 1.9 (first grade, ninth month), increased to 2.4 (second grade, fourth month) by the midpoint, and then regressed to 2.1 (second grade, first month) by the end of the study. Visual attention skills were identified as the reason for the dramatic increase and then slight regression. The impact of visual attention skills on ZPD levels is discussed in depth in Section 7.1.

At the midpoint of the study, Kara showed five months of growth in a six week time span. Her overall net growth showed three months of improvement over an eleven week period. The net growth suggests that the ESL strategies used during MGR sessions positively affected Kara's independent reading comprehension levels.

Kara's overall reading comprehension also improved when aided by ASL interpretation, although her independent ZPD scores over the course of the study varied greatly. Kara initially tested at a ZPD of 2.8 – 3.9, but dropped drastically to a ZPD of 1.4 – 2.4 when tested midway through the study due to Kara's lack of attention to the ASL-interpretation. I then tested Kara twice at the end of the study on two consecutive days. The first day, Kara again had difficulty paying attention to the ASL interpretation and scored a ZPD of 1.7 – 2.7. However, when Kara was specifically prompted to pay attention to the ASL interpretation on the second day, her ZPD score rose to 2.8 – 4.1. I propose that noticing (as defined in Section 3.4) coupled with weak visual attention skills played a vital part in the level of Kara's comprehension and accounts for the differences in score. Chapter 7 will include a detailed discussion of this hypothesis.

Overall, Kara demonstrated a net growth of two months in ASL assisted reading, moving from an upper ZPD of 3.9 to 4.1 over the eleven week period. Deaf children typically only gain one month of growth for every three months of instruction (Traxler, 2000), and Kara's previous growth rates had matched this scale. Thus Kara's net growth of two months in a three month period suggests that MGR helped increase her rate of growth. It is also important to note that, while Kara's ASL-assisted ZPD grew at only 2/3 the rate of her independent reading level ZPD, Kara's overall level of reading

comprehension is still two grade levels higher when the text is supplemented with ASL interpretation than when she reads independently.

Kara's SEE-assisted reading comprehension level score did not change, and her SEE-assisted reading level remained 1.5 – 2.5. As MGR sessions did not include explicit instruction in SEE and Kara prefers to use ASL, these results are not surprising. Furthermore, Kara's SEE-assisted reading comprehension level was not tested at the midpoint because Kara's use of SEE is not a focus of the study. I also did not want to cause Kara to experience testing fatigue by asking her to take an unnecessary test during the week of standardized state testing.

The results regarding Kara's levels of reading comprehension address the second research question: Does the student's independent reading comprehension level improve at the same rate as her ASL-assisted reading level?

As Table 6.4 shows, Kara's independent reading comprehension level progressed at a faster pace (3 months over an eleven week period) than her ASL-assisted comprehension level (2 months over an eleven week period). However, the two end point consecutive ASL-assisted test scores suggest that Kara's level of *noticing* greatly impacts her comprehension levels. It is possible that Kara's ASL-assisted comprehension level had grown further and her lack of attention to the ASL interpretation negatively impacted the resulting growth score. Thus, the results do not conclusively determine that Kara's independent comprehension level grew at a faster rate than her ASL-assisted level. However, as *noticing* is required for comprehension, the results suggest that Kara's independent level of noticing grew at a faster rate than her ASL-assisted level of noticing.

6.4   Metalinguistic Awareness

The third research question addresses Kara's use of metalinguistic knowledge and her level of metalinguistic awareness during MGR sessions: Does the modified guided reading (MGR) structure impact the level of the student's metalinguistic awareness both in ASL and in English?

The threefold structure of MGR – instruction in vocabulary, second language text structure (as well as first language grammatical structure in this case), and cultural relevance – provided natural opportunity for Kara to explore *phonological, word, syntactic, and pragmatic awareness*. Kara's increased ability to discuss word, syntactic, and pragmatic awareness suggests that MGR positively affected Kara's level of metalinguistic awareness. Additionally, the process of MGR allowed me to identify Kara's lack of mastery in *phonological awareness* and provide focused attention to the difficulties Kara encounters with phonological decoding.

6.4.1 Word, Syntactic, and Pragmatic Awareness

At the beginning of the study, Kara had one goal: read her library book well enough to take the test and make a perfect score. She did not want to take the time to slow down and discuss vocabulary words, syntactic structure, or the overall meaning of each story. Kara's hurriedness reflected her carefree attitude towards developing word, syntactic, and pragmatic knowledge. However, Kara was not doing well on her comprehension tests and was willing to attend MGR sessions to improve her reading skills.

As previously described, I required Kara to sign each book instead of reading it to herself during MGR sessions. The process of signing each word caused Kara to have to slow down and read more carefully. As she did, she began to notice individual words and ask for definitions of words she did not know. In several instances, the syntactic structure of the sentence determined how I signed the word to Kara. For example, the sign GIVE in American Sign Language (ASL) is directional. If the sentence reads, "The boy gives the ball to me", the sign moves in towards the signer's body. Conversely, if the sentence states, "I give the ball to him", the sign GIVE moves out away from the signer's body. Each time the syntactic structure determined how a word or phrase was signed, I explained to Kara how the syntax of the sentence affected the correct sign for the word.

By Week 4 of the study, Kara began to demonstrate *word awareness* as she discovered that certain vocabulary words described the pictures in her books. She then began to use the pictures to see if she could determine the meanings of new vocabulary words without assistance. Kara also began to show *syntactic awareness* by using the syntactic structure of the sentence to correctly sign new vocabulary words, a skill she had not previously shown. By Week 6, Kara began independently returning to earlier sections of a book with the same grammatical structure, vocabulary word, or action, showing conscious awareness that the two instances described the same event, showing *pragmatic awareness*.

The clearest example of Kara's increased skill regarding her ability to use word, syntactic, and pragmatic knowledge comes from her initial struggle with the concept of reported speech. Initially, Kara did not even seem aware of the importance of this

concept in reading comprehension. The descriptions surrounding reported speech seemed wordy and unnecessary to Kara and she tried to skim past them. At the beginning of the study, our focus was on vocabulary and grammatical instruction, so I only required her to sign each instantiation or ask for the ASL interpretation and we did not enter full discussions of the semantics of reported speech. However, as Kara began to choose third and fourth grade level books, she could no longer understand the content without the context that reported speech provided.

In response to Kara's lack of noticing, I initiated a mini-lesson on reported speech. I first showed her the punctuation and syntactic structure associated with reported speech. We then discussed different vocabulary words often used in reported speech. Once Kara understood those two elements, she was ready to learn the pragmatics of reported speech. I continued the lesson with discussing all the ways "Go to the office!" could be signed depending on the semantics of the reported speech. For each way I signed this statement, I asked Kara to give me a reason for the type of emotion portrayed (e.g., an excited expression could mean a birthday delivery was waiting for the student or a fierce expression could indicate the student was in serious trouble with the teacher). Out of all of our mini-lessons, this particular lesson seemed to click with Kara and she began to link reported speech with the facial adverbial manner and sign intensity used in ASL for reported speech. From that point, Kara usually read the descriptions surrounding reported speech carefully and began to naturally interpret reported speech into ASL, demonstrating the combined effect of *word, syntactic,* and *pragmatic awareness.*

6.4.2 Phonological Awareness

The Signed Fluency Rubric for Deaf Children (see Appendix B) developed by Huston & Easterbrooks (2008) measures the signed reading fluency of deaf children. The child reads a narrative story within her independent zone of proximal development (ZPD) level and the performance is rated according to six linguistic elements for signed fluency and seven elements for visual grammar.

I rated Kara's signed fluency performance on the story Splash[18] at both the beginning and endpoint of the study. The story carried an ATOS reading level of 1.6 (first grade, sixth month) and fell slightly above the middle range of her beginning 0.9 - 1.9 ZPD level and slightly under the middle range of her ending 1.1 – 2.1 ZPD level. Of particular interest is Kara's rating on the fingerspelling element of the fluency section. According to the Signed Fluency Rubric, Kara demonstrated both emerging and beginning levels of fingerspelling fluency at the beginning of the study. She fully fingerspelled new words for the first half of the book, but did not always correctly produce N-E-L-L-Y, one of the character's names. In the latter half of the book, Kara did not attempt to sign or fingerspell words she did not know and skipped them altogether instead.

Kara's signed fluency performance at the end of the study showed a regression and neither emerging nor beginning fingerspelling skills were observed. Instead, Kara's fingerspelling had to be rated "Not Observed" as it was unintelligible with consistently inappropriate placement. This does not mean Kara did not attempt to fingerspell, but rather points to the fact she never clearly or completely fingerspelled a whole word. The

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[18] Dewey, A. & Aruego, J. (2003). Splash! San Diego, CA: Harcourt, Inc.

character that Kara had produced correctly as N-E-L-L-Y in the assessment at the beginning of the study appeared at the end of the study only as N-E, N-L, L-Y, or simply N[19]. Kara also did not fully spell any vocabulary words she did not know and in fact skipped several words as she read.

These results are in line with the drop in reading comprehension observed at the end of the study and may be heightened by the fact that Kara's endpoint reading fluency was tested shortly before a fun day at school was about to begin. Her ability to attend to the task at hand was lacking, as evidenced by the skipping of words as she read.

Kara also produced a random fingerspelled 'R' at times during both the beginning and endpoint fluency assessments. The placement of this 'R' was not consistent, but seemed to appear when Kara did not know a word. The random 'R' phenomena also occurred several times throughout the course of the study, but without additional video data, I do not have the means to analyze the meaning or placement of this 'R'.

Kara's signed fluency performances suggest that, while she may be aware of the need for phonological decoding through fingerspelling, she has not yet mastered this metalinguistic skill.

6.5   Independent English to ASL Translation

The fourth research question addresses the learner's independent interpretation skill: Will the use of the three ESL strategies[20] inherent to modified guided reading

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[19] Name signs are often denoted by specific placement of the first letter of the character's name, but Kara was simply producing a letter here, not a name sign. This fact is further evidenced by the way Kara assigned a name sign to another character, Sam, by placing an S hand shape at the shoulder, following a generally recognized method of producing a name sign.

[20] Vocabulary instruction, second text analysis, and cultural relevance discussion (see Avalos et al., 2007)

instruction improve the student's ability to translate between ASL and English

independently?

As Kara's metalinguistic knowledge developed, I began to see independent

English to ASL translation. During Week 4 of the study, this skill appeared as Kara

began to realize the pictures in the lower level books she was reading corresponded to

the text and she could use the pictures to determine the meanings of new vocabulary

words. Interestingly, Kara was able to produce correct classifier constructions for many

of these English vocabulary words that did not have equivalent signs in ASL. As

classifiers are acquired relatively late by young children and show advanced language

skills (Schick, 1990), Kara's use of classifiers suggests true translation of thought and

concept.

During Week 5, Kara took a step further and independently interpreted the book

Listen to Me[21] as she reread the book before taking the comprehension test. The

ATOS reading level of the book is 1.6 and Kara had not needed assistance reading the

book the first time through. In fact, she had made several cultural connections between

her own experiences and that of family members and the need that the little boy in the

book had for his grandmother since his parents were too busy to play. Although the

book was simple for her, I still required her to reread it in accordance with the MGR plan

I had created for improved comprehension. I was not going to require Kara to sign the

book the second time, but she naturally started signing as she read and I did not stop

her. By the second page, it was apparent that Kara was interpreting the story into ASL,

rather than simply reading the words on the page. Kara's interpretation of the little boy's

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[21] Neasi, B. J. (2001). Listen to Me. New York, NY: Children's Press.

feelings about his parents being too involved in projects to play and the way that his grandmother was able to step in and take him out for a fun day enhanced the character and actions of the printed text in much the same way that native deaf adults do when storytelling. By engaging in this type of storytelling, Kara demonstrated that she fully understood the story and was able to independently interpret it into ASL (see Appendix C for an example of Kara's interpretation). Additionally, Kara exemplified an innate cultural understanding of how ASL is used in storytelling and the ability of the language to manipulate space, character development, and movement (Rayman, 1999).

Kara continued to show independent translation as MGR sessions progressed. As she started reading higher word count books and we started taking notes, Kara began to interpret the notes into ASL as she reread them instead of providing the word for word English signs.

6.6   Benchmark Scores

Starting in third grade, students in Texas are required to take standardized tests to measure their academic ability. Third grade students are required to take reading and math assessments, while fourth grade students are required to take writing, reading, and math assessments. Although Kara and the students in her class had been preparing for the exams all year, the actual testing took place during Week 6 (writing) and Week 9 (math and reading) of the study. In the days before the exams, Kara's teachers and I had instructed her to use her visual attention strategies implemented during the course of this study. Due to state testing regulations, we were not allowed to

remind Kara of these strategies on any of the days she took an exam. Although we do not know to what extent, Kara reported using the strategies on all three exams.

In third grade, Kara had failed the reading assessment by answering only 20-29% of the questions in all three categories correctly. Kara failed the reading assessment again this year by answering only 50-62% of the questions correctly in two categories and 0% correctly in a third category. However, Kara did pass the writing exam this year.

At first, the results seemed puzzling. Kara's overall reading comprehension and stamina had grown to the point where it seemed feasible for her to pass the reading exam. She struggled much more in writing than she did in reading and she had not previously seen the writing exam due to it being administered to elementary students starting at the fourth grade level. However, Roehr (2008) provides interesting insight that correlates with these results:

> Existing research has shown that L2 learners' metalinguistic knowledge correlates positively with L2 proficiency – provided the latter is operationalized by means of written rather than oral measures. Given that the use of explicit knowledge requires controlled processing which is by definition slow and effortful compared with automatic, implicit operations, this finding is perfectly compatible with previous theoretical argumentation. (p. 93)

The metalinguistic skills Kara had been developing during MGR sessions allowed for greater improvement in writing skills, even though they were not the target of the ESL training. Reading is a slower, more laborious process for Kara and she often expressed the desire to finish more quickly or speed up the process. Adding to the reading challenge is my suspicion that Kara may not have used her visual strategies throughout the scope of the exam. Without these strategies, Kara fatigues more quickly and loses interest as her reading comprehension levels drop. Thus, although Kara did not pass

the reading exam, she still showed improvement over the previous year and passed the writing exam on her first try, showing evidence of metalinguistic skills at work.

6.7   Self-Esteem and Confidence

Kara's upward trend of success in raising her reading level, word count, and comprehension test score averages greatly contributed to her sense of accomplishment. She continually pushed the upper limits of her reading ability and showed great pride and excitement each time she was successful. During the study, she finished two books that were each longer than 200 pages and made high scores on both comprehension tests. The second of these books was actually a story Kara had tried to read a few months earlier but not been able to understand the concepts well enough to comprehend the text. Her elation in finishing the book and doing well on the test was evident and many of her teachers celebrated with her.

As Kara's reading comprehension grew, her desire for simple storylines changed in favor of more complex or abstract ones. Towards the end of the study, Kara began to turn down offers from friends to read lower level books for easy grades because she had already picked higher level books she wanted to read. She eventually chose a 600 page book from the library and proudly showed her friends her thick novel. Their amazement only helped bolster her self-esteem, and Kara's responses showed how much her confidence had developed since the beginning of the study. Although she was not able to finish the book before the end of the study, Kara worked hard using her strategies and saw the results of that effort.

6.8   Summary

The final results of this study show the following increases in Kara's average

scores:

- 31.0% in ATOS reading level

- 13.1% in word count

- 13.2% in comprehension test scores

Additionally, Kara's cumulative word count for the duration of the study increased 77.7%

over her pre-MGR cumulative word count, suggesting a highly improved level of

stamina.

Kara's independent zone of proximal development (ZPD) level grew at a faster

rate (3 months equivalency over eleven weeks) than her ASL-assisted ZPD level (2

months equivalency over eleven weeks), although her ASL assisted upper ZPD level

(4.1) remains two grade levels above her upper independent ZPD level (2.1). Kara

demonstrated metalinguistic awareness in word, syntactic, and pragmatic knowledge,

but a lack of awareness of phonological decoding strategies involving fingerspelling.

Kara's benchmark scores demonstrate additional metalinguistic awareness in her

writing ability, as evidenced by her writing score and reading comprehension, shown by

higher overall scores when compared with the previous year. She also showed an

increased ability to independently interpret English text into grammatically and culturally

correct ASL forms. Kara also expressed increased self-esteem and confidence in her

reading ability, both of which provided strong internal motivation for her to continue

pushing herself harder and farther in improving her reading comprehension skills.

CHAPTER 7

DISCUSSION

This case study has been designed to evaluate the impact of modified guided

reading (MGR) on a deaf student's reading skills and language development over the

course of eleven weeks. To my knowledge, it is only the second study regarding the

effect of MGR on deaf children's reading skills, and it is the first case study focusing on

the effect of MGR on both reading skills and language development of a deaf child in

both her L1 and L2. The results suggest that MGR positively influenced the student in

the following three areas: 1) ATOS reading level, word count, and comprehension test

scores, 2) benchmark tests, and 3) confidence and self-esteem. Additionally, the study

found visual attention skills to be crucial to the student's ability to be successful in these

three areas.

7.1   What the Numbers Show: Reading Level, Word Count, and Comprehension Test
       Scores

The first research question of this study explores the effect of English as a

Second Language (ESL) methodology on a deaf student's progress with respect to her

ATOS reading level, word count, and comprehension test scores as determined by the

Accelerated Reader (AR) program. Comparing Kara's overall MGR and pre-MGR

scores addresses this question and shows the following increases in her average

scores:

- Reading Level: 31.0% increase

- Word Count: 13.1% higher weekly average with a 77.7% increase in

   cumulative word count

- Comprehension Test Score: 13.2% increase

In addition to the structure of MGR sessions, Kara's personality also played a role in her testing performance. By nature, Kara has a competitive personality and entered the study with the desire to improve her overall reading level and test scores. At the beginning of the study, she had recently experienced an unexplained drop in her reading and testing ability, causing her to become frustrated to the point of tears after each AR comprehension test. In response to this drop, Kara had been steadily choosing lower level books in hopes of making the esteemed perfect score, but her test scores were still low even on kindergarten and first grade level books. As a result, Kara was ready to work hard and boost her scores when we started MGR sessions.

The structure of MGR sessions provided Kara the much-needed opportunity for one-on-one instruction and clarification. Additionally, because I had modified the format of MGR instruction to include the requirement that Kara sign each story, I was able to determine that she was skipping signs for words as she read. I then observed Kara's eye movement as she signed and noticed that her eyes were not tracking well, causing her to skip words and even complete lines as she read.

Elizabeth Hirschon (2003), from the Visual Language and Visual Learning (VL2) Science of Learning Center, attributes these type of tracking difficulties in deaf children with cochlear implants to the visual attention problems that result from the lack of attention to the central visual field in favor of developing a strong visual peripheral ability. While research shows the central focus develops later and the deaf individual maintains the advantageous peripheral skills along with a strong central focus, deaf children often have an imbalance between the two fields of vision. Consequently, deaf

children may try to read using their peripheral vision skills rather than employing the central focus, which can cause the child to try to read words or sentences from both outer edges of the sentence or word towards the center. Children without a strong central focus may also have trouble identifying letters and words, show longer fixations, read at a slower pace, and have difficulty with long term memory retention of words and concepts. According to Hirschorn, 'windowed reading' is recommended as a reading technique for limiting peripheral distraction by presenting words in smaller chunks.

Although at the time I was not able to determine why Kara was suddenly having visual attention difficulties, I decided to address the issue using the 'window reading' technique. I required Kara to use a pacer – either a bookmark or a sheet of paper – placed under each sentence. I then had her slow down her reading pace until she was reading at a comfortable pace where she could visually see and sign each word. If Kara skipped a word, I immediately pointed out the word to her and had her sign the word. At times, I had her sign the sentence over to make sure she understood the word in context. I also had Kara start reading each story twice, giving her extra visual time to see each word and look at the pictures in relation to the story.

The immediate increase in Kara's AR scores suggests that this method of using a pacer is the main contribution to Kara's increase in stamina, or her ability to read longer texts. Kara was able to read 77% more words during the course of her MGR sessions while using a pacer than she had read previously without one. Being able to track the words also improved Kara's comprehension and interpretation ability as she was able to visually attend to the whole text, not just to bits and pieces of it. These factors point to the success of MGR sessions, as well as the ESL strategies

implemented. Prior to the low student ratio of the MGR environment, or one-on-one ratio in our case, Kara's tracking difficulties had not been identified or addressed.

As our MGR sessions came to a close, so did the school year. We began to have multiple interruptions in our schedule with end-of-year activities. At this point, Kara began having difficulty switching between fun days, where little vigorous visual attention was required, and work days, which demanded long periods of visual attention. The stamina Kara had gained started to quickly wane and she began to demonstrate visual attention difficulties again. Her comprehension test score grades dropped slightly and she needed a fair amount of redirection. This drop brought to mind the unexplained drop in reading levels and test scores Kara had experienced prior to starting the study on February 25. Due to the timing of Kara's initial drop before the study, it is plausible to consider that the Valentine's Day activities and changes in scheduling that took place prior to this drop caused the decline in scores, as Figure 6.4 shows.

Thus the patterns of Kara's reading level, word count, and test scores suggest that the MGR sessions were helpful in identifying and providing intervention in Kara's visual attention difficulties and the ESL strategies allowed for an overall increase in literacy ability, while Kara's personality and lack of visual attention mastery played a part in the overall rise and fall of her scores. Kara's inability to easily switch between low visual attention and high visual attention days indicates the need for further visual attention training, as it allows for successful English and ASL instruction.

7.2   The Combined Effect of ESL Strategies, Metalinguistic Awareness, and Visual
       Attention on Reading Comprehension Levels

Although standard educational goals state that most students should gain one year of progress for each school year (Schirmer & Shaffer, 2010), deaf children typically only gain one third of a year of academic progress per school year (Traxler, 2000). At this rate, during a typical school year that consists of 36 weeks (180 days), deaf children tend to show 4 weeks of growth for every 12 weeks of school. Kara's previous benchmark scores, classroom grades, and independent reading levels show that her academic ability progressed according to the norm for deaf children rather than according to the standard norm.

Thus Kara's net independent reading level improvement of three months in an eleven week period shows a highly improved ability to progress at a standard grade level rate of learning. Kara's midpoint independent ZPD increase of five months equivalency in a six week period demonstrates an even more dramatic result. The overall findings of the study suggest the dramatic increase in Kara's growth rate is the result of a series of events happening in the order depicted in Figure 7.1.

Initially, Kara was not performing well on reading comprehension tests and there had been a drop in her ATOS reading level. By identifying her tracking issues and requiring her to use a pacer, sign each story, and read each story twice, Kara's visual attention skills became stronger and she was able to cognitively register the visual input of the text. As she registered the input, she and I were able to engage in MGR lessons that incorporated the ESL teaching strategies of vocabulary instruction, second language text analysis, and cultural discussion.

```
┌─────────────────────────────┐
│   Visual attention difficulties  │
│     identified and treated        │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│    Ability to coordinate visual   │ ⟵─╮
│    input with ESL strategies      │    │
└─────────────────────────────┘    │
              ↓                         │
┌─────────────────────────────┐    │
│        Development of             │ ──╯
│    metalinguistic knowledge       │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│    Language development in        │
│       English and ASL             │
└─────────────────────────────┘
              ↓
┌─────────────────────────────┐
│      Increased reading            │
│       comprehension               │
└─────────────────────────────┘
```
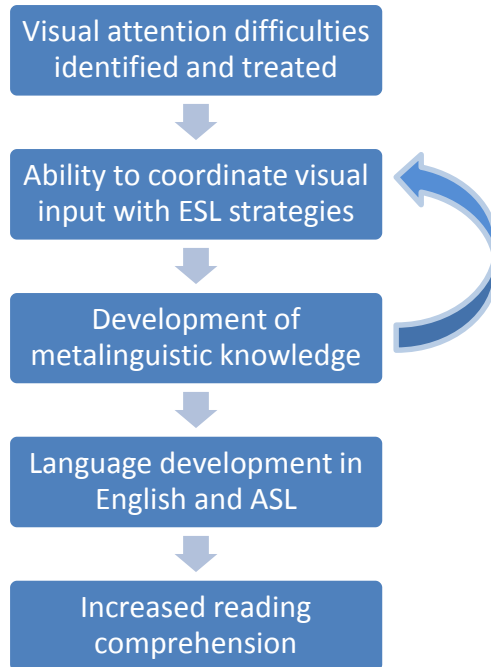
Figure 7.1. Flow of learning processes leading to increased reading comprehension.

Through the process of incorporating these strategies, Kara showed an increased word, syntactic, and pragmatic awareness. She also demonstrated the ability to engage in noticing as lessons continued. Additionally, I was able to identify metalinguistic difficulties Kara had with phonological decoding through the use of fingerspelling. As Kara's metalinguistic knowledge grew, so did her linguistic application to English and ASL structure, resulting in a 31.0% increase in her reading comprehension ability.

The necessity of the order of these steps is further supported by the ZPD scores Kara received for the ASL assisted reading level tests. Kara's midpoint ASL assisted ZPD fell from 2.8 – 3.9 to 1.4 – 2.4. As Kara often broke eye gaze during the ASL interpretation and read the test question herself without waiting for the ASL input during this test, it is not surprising her results were at exactly the same level as her independent ZPD level. At the time, I theorized that the lower score was not due to a

cognitive inability to process ASL, but rather the lack of ability to engage in *noticing* when her visual attention weakened, resulting in overall lower reading comprehension levels. However, due to the fact that state standardized testing was scheduled for the next week, I did not retest Kara so as not to cause unnecessary testing fatigue.

At the end of the study, however, I had the opportunity to test this theory. When Kara initially took the endpoint ASL assisted test, her score slightly increased to a ZPD level of 1.7 – 2.7. I then retested Kara the next day and explicitly instructed her to pay attention to the complete ASL interpretation before reading the question herself and choosing an answer. Although Kara attended better to the interpretation than the day before, she still occasionally broke eye contact and chose answers without the assistance of the interpretation. Due to repeated reminders to watch the interpretation, Kara still received more ASL input than the previous day and her ZPD level rose to 2.8 – 4.1. Had she attended to the whole interpretation, her ZPD level might have been even higher.

In the end, visual attention turned out to be the key factor Kara needed to be able to engage in the other linguistic processes to improve her reading comprehension level. Without attention, and thus without engaging in *noticing*, Kara scored a full grade level under her potential ability.

7.3   Independent Interpretation

The ability for Kara to produce independent English to ASL interpretation further substantiates the series of reading processes depicted in Figure 7.1. If added to the flow chart, independent interpretation would appear as the last concept after improved

reading comprehension, as illustrated in Figure 7.2. The ability to take in language and understand the interplay between form, structure, and semantics is difficult for deaf children, as evidenced by low reading levels that do not greatly improve after years of instruction. Thus Kara's ability to perform this task independently indicates maturing linguistic skills in both English and ASL that result in improved reading fluency skills.

Figure 7.2. Flow of learning processes leading to independent interpretation

Independent interpretation ability has several real life applications for deaf individuals, especially those like Kara who may depend on reading and writing as forms of communication with hearing peers. Although Kara is able to lip-read to some extent and voice certain requests for herself, she does not always understand others and they do not always understand her. The more Kara's independent reading comprehension

and translation ability improves, the easier it will be for her to function in a primarily hearing environment, both as an adolescent and as an adult.

7.4   A Whole New World

In the eleven weeks of the study, I observed Kara's improved reading comprehension skills open doors for her that she did not even know existed. Kara read about other countries and languages, hardships children her age faced one hundred years ago, and why older brothers can be bothersome. She read classics often inaccessible to deaf children due to low reading comprehension levels and showed the ability to retell these works using native ASL storytelling features. She made real life connections with every story she read and began to incorporate the events of the stories into her own life. At times, she had her teachers rolling with laughter as she mimicked characters from the books she had read. Other times were more serious as she searched for the same answers about her own life that a character was searching for in his.

Kara's enthusiasm and increased confidence, along with her test scores and teacher observations, suggest that she began to understand the process of reading during the course of this study and that she has discovered a whole new world. She started to read as a matter of choice, not of forced will. At the time of writing this thesis, Kara has taken advantage of end-of-year sales to inexpensively purchase over fifty new books to take home for summer reading. In the last two days of school, Kara brought two of these books back to school to read with me. One of the books discussed Chinese character writing and the other was a book on Geology from 1972. Both

contained text supplemented by pictures, and Kara was as curious about the text as she was about the pictures. It truly has been a delight to see her sense of discovery bloom over the course of the study and has further reinforced the idea that the findings of this study would be beneficial to other deaf children as well.

7.5   Training and Ethical Considerations for Educational Interpreters

The Registry of Interpreters for the Deaf (RID), a national agency that provides oversight and establishes professional standards for sign language interpreters, has recently published information regarding the accepted role of the educational interpreter. RID has formally acknowledged that educational interpreters often fill other roles that include "providing academic support, such as tutoring the deaf or hard of hearing student, as outlined in the IEP and under the guidance of a certified teacher" (RID, 2010). However, many educational interpreters still lack the training necessary to provide tutoring instruction that meets the unique educational needs of the deaf and hard of hearing students they work with. Specialized training in these areas can help interpreters more effectively assist students (Smith, 2010).

Additionally, taking on the role of instructor, even on a small scale, can create ethical conflicts regarding the interpreter's role. Students may have difficulty accepting the authority role of the interpreter in an instructor position, as educational interpreters normally do not provide classroom management or address student disciplinary needs. On the other hand, if the change in role does work successfully, staff and school administrative members may expect the interpreter to take on the instructor role in other subject areas, even if a qualified teacher is available.

However, especially in rural school districts, the interpreter is often the only individual available to the student with expertise in both English and ASL and may be in a unique position to provide linguistic instruction that no one else is capable of providing.[22] The potential literacy benefits the student can experience (as shown in this study) from learning ESL strategies during MGR sessions could outweigh potential conflict in the interpreter's role, especially with additional training, support, and accountability for the interpreter.

7.6   Limitations of the Current Study and Opportunities for Further Research

While case study research is important for observing processes and results with individual participants, it is important to verify procedures and methods and their effect on a larger population before declaring any particular method to be successful across the board. Thus, the results determined by one participant in this case study do not yet allow for these methods to be considered successful across different ages and genders. Although I hypothesize that these same procedures as outlined by the flow chart in Figure 7.1 would be successful for most deaf students with a severe to profound hearing loss, that hypothesis needs to be confirmed against a larger sample size.

Video data recording the participant's progress was not available for this study, limiting the types of post-treatment analysis available for review. While I carefully documented the participant's reaction to each process, video data would have allowed for further analysis of the random 'R' factor and perhaps provided additional insights I might have overlooked in my role as the MGR instructor for this study. Additionally, my

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[22] See Smith (2010) for an in-depth review of educational interpreter roles and conflicts.

involvement in the study as investigator, interpreter, and MGR instructor required a constant balancing of roles. While I do not feel I have any conflicts of interest to report in managing these three roles, I am aware that my personal involvement in the study could have influenced the way I viewed the process or made observations, either positively or negatively. Ideally, the study would need to be repeated with a larger sample size and other interpreters in the role of MGR instructors so that I could avoid any potential conflict of interest by staying purely in the role of investigator.

As visual attention skills seem to have been a key factor in Kara's overall performance, I believe it would be worthwhile to investigate visual attention abilities of deaf students in general and the effect those abilities have on developing metalinguistic skills related to reading comprehension. Additionally, the way in which reading levels of deaf children might be improved by the use of a pacer alone, without supplemental MGR instruction, is an area that deserves its own study.

Another potential study concerns interpreter roles and the feasibility of implementing interpreter guided MGR sessions in schools where interpreters are the only qualified professionals available to provide such instruction. Interpreter, classroom teacher, and administration attitudes towards the interpreter's involvement in MGR sessions would be helpful in identifying potential resources available within school districts to improve reading comprehension support for deaf children. Furthermore, these perspectives might highlight potential barriers and conflicts of interest that would need to be addressed before the implementation of an MGR program. Identifying the need for interpreter training or continued development in ESL methodology would also fall within the scope of this type of study.

CHAPTER 8

CONCLUSION

The results of this study show the positive effect that English as a Second Language (ESL) methods implemented during modified guided reading (MGR) sessions have on a learner's reading level, word count, and reading comprehension ability. Kara, the participant in this study, showed increased improved in the following areas:

- ATOS Reading Level: 31.0%

- Word Count: 13.1% with a cumulative increase of 77.7%

- Comprehension Test Score: 13.2%

Kara's independent zone of proximal development (ZPD) reading level grew at an equivalency rate of 3 months over the eleven week study. Her ASL-assisted ZPD level grew at an equivalency rate of 2 months over the eleven week study, showing a slightly faster development rate in her independent ZPD level. In addition, her overall ASL-assisted ZPD level remained two grade levels higher than her independent ZPD level over the course of the study, demonstrating Kara's ability to access higher levels of academic content when the reading of the text was assisted by ASL interpretation.

Throughout the course of the study, Kara's thought process and signed comments of the text evidenced evolving word, syntactic, and pragmatic awareness. Benchmark testing scores also revealed the use of increased metalinguistic awareness as evidenced by Kara's writing scores. An assessment of Kara's beginning and endpoint reading fluency[23] revealed declining skill in phonological decoding ability through fingerspelling over the course of the study. While Kara's endpoint rating could

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[23] As determined by the Signed Reading Fluency Rubric for Deaf Children (Easterbrooks & Huston, 2008).

be attributed to visual attention difficulties, both her beginning and ending ratings clearly display Kara's lack of mastery concerning this metalinguistic skill. Consequently, further training focusing on the link between phonological decoding and fingerspelling is recommended for Kara.

As Kara's metalinguistic knowledge developed, she began independently providing grammatically and culturally correct ASL interpretations while reading the English text. The advanced linguistic level of her interpretations suggests improved comprehension and recall of events, as evidenced by the improvement in her reading ability which corresponded with her reading comprehension test scores. Independent interpretation is one of the more difficult reading skills to master and Kara's emerging skill in this area points to the success of ESL methodology concerning both English and ASL instruction.

Perhaps the most important, although unexpected, outcome of the study concerns the way in which modified guided reading (MGR) sessions brought to light the visual attention difficulties Kara had tracking the words in the text. As a result, these difficulties were addressed by requiring Kara to use a reading pacer, sign each word as she read, and read each story twice. The positive effect that addressing Kara's visual attention problems had on her reading stamina and comprehension ability, and thus her overall reading level, presents a crucial finding of the study regarding Kara's comprehension reading needs. Without addressing visual attention issues, Kara is not adequately able to engage in ESL methodology designed to improve her overall reading comprehension. Therefore, while the overall study results suggest that ESL methods taught during MGR sessions do indeed improve a learner's reading comprehension

ability, this improvement hinges on the learner's ability to visually attend to the text and the signed discussion.

This case study addresses the research gap regarding the effect of an interpreter's ability to assist deaf students' linguistic development and reading comprehension by implementing ESL strategies in an MGR setting. While the findings of this study demonstrate a positive effect with increased reading comprehension skills, further research is needed to determine effectiveness on these methods for a larger population of deaf children. Additionally, the feasibility and training needed for interpreters to fill this linguistic role needs to be identified and addressed, but the results of this study suggest that pursuing these topics would be a worthwhile endeavor.

APPENDIX A

NOTE TAKING EXAMPLES

100
AR
test

Beauchamp

1. Rob found tiger. (luck!)

2.

Kentucky
Star Motel

Sistine
(chapel)

good
luck
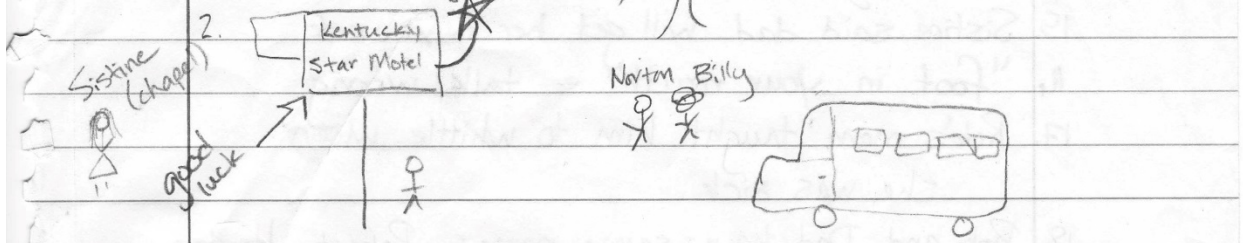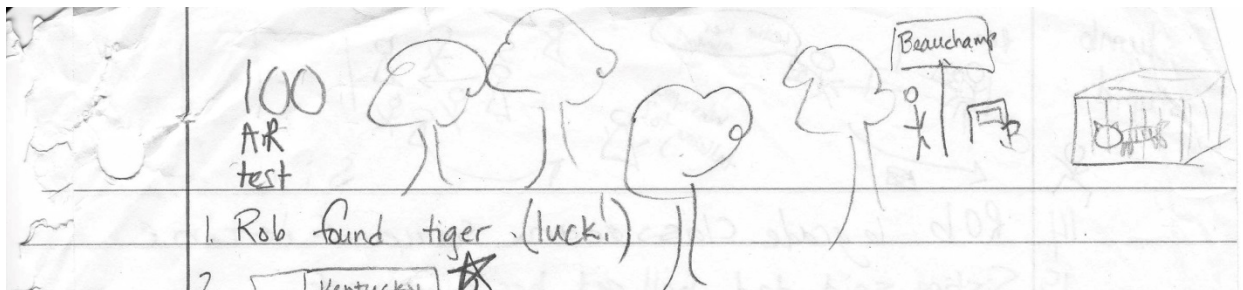
Norton Billy

2. Rob think tiger magic, run and wait for bus.

3. Rob have rash.

4. Rob's mom died six months ago

5 moved from Jacksonville to Lister

6 Rob put his feelings in suitcase and imagined tiger on it.

rooar!
rash
mom died
Norton = Billy mean

Ms. C 20AR
in style

house dirty

Kylie eat dog
anyroom
clean
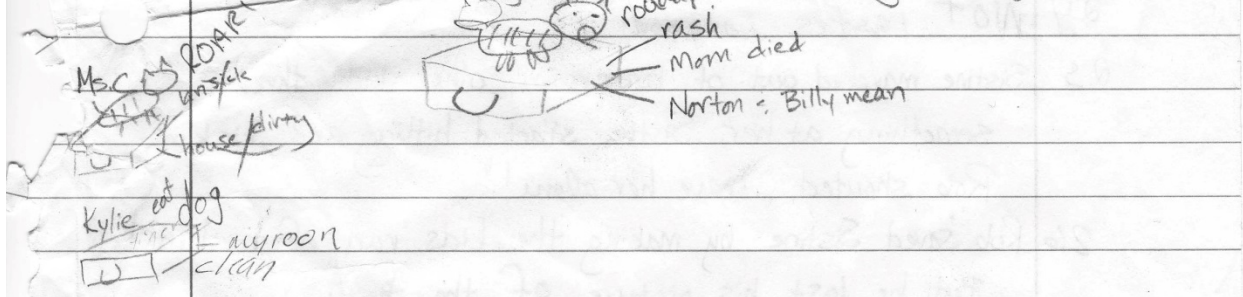
7 Norton tease Rob

8. Billy put his face close to Rob and said,
   "You are not a Kentucky Star."

9. Billy = Norton bully Rob.

10. New girl got on bus

11 Not I fault you not have good clothes
   say girl

12. Girl's name is Sistine, like Sistine Chapel

13 Rob thought Sistine Chapel was beautiful. looked at
   Mrs. Dupree's book

dumb
stupid

14. Rob 6 grade classroom same Sistine
15. Sistine said dad will get her next week.
16. "foot in your mouth" = talk wrong
17. Rob's mom taught him to whittle when
     she was sick.
18. Rob and Dad have same name= Robert Horton
19. Rob has to go to the principal's office (Mr. Phelmer
20. Sistine "shot him a look" of hate
21. Mr. Phelmer worried about Rob.
22. throat clear and home stay
23. Rob happy to stay home
24. NOT tastes not good
25. Sistine marched out of lunchroom, other kids threw
     something at her. Sistine started hitting and kicking.
     Rob shouted, "Leave her alone!"
26. Rob saved Sistine by making the kids run after him!
     But he lost his picture of the tiger.
27. Sistine sat by Rob on the bus. Rob told Sistine
     that the Sistine Chapel was a picture of
     God making the world (in Italy).
28. Frescoes - pictures painted on the ceiling
29. Sistine touched Rob's leg; doesn't want to go
     to school; rubbed her own leg.
30. Dad read Note
31. Dad told Rob he can stay home for a few days.

hotel
motel

32. Beauchamp is boss at motel
33. Tiger walking Long rob's Think beauchamp is rich.
34. Rob carved Sistine out of wood.
35. Rob dreamed sistine on Riding tiger
36. Dad woke Rob up at 5:30 am. Rob saw light from the KY Star.
37. Dad let Rob drink coffee and, then, they walked to work
38. Rob met Willie Mae in the laundry room
39. Willie May told Rob it was sadness in his legs. Let the sadness rise.
40. Sistine brought Rob homework.
41. Kentucky Star named for B's old horse.
42. I know where tiger rob said, sistine said where?
43. rob and sistine motel see Gun and pan and carving
44. Sistine's Mom left her Dad and moved back to Lister.
45. Sistine got very mad at Rob and said, "Keep your stupid tiger! I don't care!"
46. Rob told Sistine, "My Momma's dead."
47. Sistine and Rob saw the tiger. Sistine told Rob about the poem.
48. cur near Beauchamp
49. Rob and Sistine hold hands and run away. Rob feels happy.
50. Sistine & Rob went back to motel. Sistine called her mom to pick her up.
51. Mom told Sissy she looked like a hobo.
52. caroline Rob's mom
53. When WM was a little girl, her dad bought green bird in cage. She named him Cricket

you	just kidding!	ok	keep in touch	thanks
u	jk!	k	kit	thx

54. Snake ate the bird

55. Rob said he knew something in a cage. WM said everyone does

56. Beauchamp took Rob for a ride in his jeep

57. B. showed Rob the tiger and gave him keys to the cage so Rob could feed him.

58. B. told Rob to use tiny key to open food door.

59. Tiger has no name, but makes Rob think of Sistine.

60. Beauchamp shook the cage

61. Sistine wants tiger to live with panthers.

62. gasp afraid choking cry crys istine

63. Rob put his hand on Sis' neck and whispered, "I got you. I got good hold of you."

64. you army , gum , cigarette

65. WM is 6ft 2inches

66. Sisi thinks Willie Mae is a prophetess

67. Dad found stinky meat

68. craked knuckles gun

69. Rob bird knife trash meat

70. Dad put more medicine on Rob's legs

71. Rob gave WM the wooden bird, Cricket

72. Ask WM (prophetess) what to do about tiger.

73. Wm ask show me tiger

74. WM said leave tiger alone

75. Rob told Sis her dad is not coming

76. WM said the tiger needed to rise up (and attack Beauchamp like Rob's sadness needed to rise up

77. Rob told Sis he would let tiger go.

78. Sis said Beau is afraid of tiger

* 79. Rob ; Sis let tiger go!!!!

80. Dad shot tiger.

81. Rob got very mad and hit Dad and said say her name!
   Caroline

brother = bubba
Sister = Sissy

Hold your tongue = shh!

Sistine = Sissy
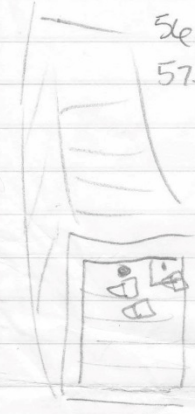
82. WM got dad to shoot tiger & save Rob.
83. Funeral for tiger
84. Sis said poem
85 WM gave tiger her bird.
86. Sun
87. Best friend
88. Beau mad
89. Mom back school
90. Rob dream bird fly away

APPENDIX B

SIGNED READING FLUENCY RUBRIC FOR DEAF CHILDREN

Signed Reading Fluency Rubric for Deaf Children
Huston and Easterbrooks

Reader's Name: DOB: Date of Tape:
Evaluator: CA: Date Tape Analyzed:

PART I FLUENCY ENVELOPE

To analyze *Fluency Envelope*, videotape the student reading a narrative text at his/her independent reading level and rate performance using the rubric below. List points for each trait in far right column. Calculate total points and indicate rating using the scale below the rubric.

General Description of Column	Not Observed (0)	Emerging (1) Poor attempts. Laden with problems of clarity, correctness and consistency.	Beginning (2) Fair attempts. Problems with clarity, correctness and consistency.	Developing (3) Clear attempts. May be incorrect or inconsistent.	Mature/Fluent (4) Clear, correct, consistent.	Points For Row
Speed	Meaning is un-intelligible due to speed (too slow/fast)	Too slow/fast. Some text meaning may be obscured due to inappropriate speed.	Attempts to vary speed based on story content. Most signs are not obscured by speed.	Speed of signing usually matches story content and does not impact intelligibility	Speed of signing consistently fits story context.	
Facial expression	No affect or expression associated with story.	Used as personal response, not to convey information to others.	Attempts made to relate facial expression to text. May be stilted.	Attempts are appropriate but may be inconsistent.	Appropriate, consistent facial expression. Conveys content.	
Body movement	No body movement associated with story.	Attempts are made but are not related to the story well.	Attempts are fair. Some may interfere with flow of story.	Good use of body movement. Usually conveys content.	Clear, correct and consistent use of trait to convey content.	
Sign space	No awareness of sign space.	Attempts are made but are inaccurate.	Attempts are fair. Trait interferes with story flow.	Good use of space. Minor errors.	Sign space used accurately at all times.	
Sign Movement	Story unintelligible due to bouncy/stiff/jerky sign movement	Poor control. Signs are primarily bouncy/stiff/jerky	Attempts to control. Inappropriate movement interferes with story flow.	Presentation is steady/relaxed/smooth most of the time.	Consistently steady/relaxed/smooth with appropriate follow..	
Fingerspelling	Unintelligible. Consistently inappropriate placement.	Poor placement and control (stiff/bouncy/jerky).	Some problems with fingerspelling placement and fluency.	Primarily appropriate placement and minimal problems with fluency.	Consistently appropriate placement. Consistently intelligible and fluid (relaxed/steady/smooth)..	

Points earned/Points possible ____/24= ____%
Fluency Envelope Rating _____

Fluency Envelope Rubric Analysis: Poor= 0-24%; Emerging= 25-49%; Beginning= 50-74%; Developing= 75-90%; Mature= 90-100%

PART II VISUAL GRAMMAR

Videotape the student reading a narrative text. To analyze syntactic aspects, watch tape and rate student performance using the rubric below. List points for each trait in far right column. Calculate total points and indicate rating using the scale below the rubric.

ASPECT OBSERVED	Not Observed (0)	Emerging (1) Minimal attempts Less than 30% of the time.	Beginning (2) Fair attempts, aspect observed. At least 50% of the time.	Developing (3) Clear attempts, minimal inaccuracies. Used 50 to 90% of the time.	Mature/Fluent (4) Clear, correct, consistent. Used at least 90% of the time.	Points For Row
Use of Space	No indication of spatial awareness. People, places, and things are "layered" or randomly organized.	Minimal use of space. A few people, places, and/or things are logically placed.	Logical use of space is evident during only 50% of the read aloud.	People, places, and/or things are placed appropriated during most of the read aloud. Makes a picture most of the time.	Placement of people, places, and/or things shows evidence of reader's consistent visualization of text.	
Role Taking	No character interactions are identifiable.	Minimal character interactions are evident through role shift.	At least 50% of character interactions are evident through role shift.	The majority of character interactions are evident through role shift.	All characters are clearly and easily identifiable due to appropriate body shift/role taking.	
Eye Gaze	None evident, shows no evidence of text visualization.	Evident during less than 30% of appropriate instances.	Clear and appropriate during at least 50% of the reading.	Present during most of the text rendering, promotes viewer visualization of text.	Consistently appropriate and promotes visualization throughout the text	
Negation	No appropriate negative headshake observed.	Present in less than 30% of appropriate instances	Present in at least 50% of appropriate instances.	Present in most instances, but not all	Present in all appropriate instances.	
Directionality	No directionality indicated for the any signs.	Observed in less than 30% of appropriate instances.	Present in at least 50% of appropriate instances. Uses directionality inherent in sign but not between signs.	Present in most instances but not all.	Directionality of signs is clear and consistent throughout the text. Observer can visualize action.	
Use of Classifiers	No use of classifiers.	Minimal use of classifiers (one to two instances).	Uses classifiers in approximately 50% of allowable instances (for animal movements, etc).	Uses classifiers to represent concepts most of the time.	Uses classifiers consistently and accurately to portray text content and support visualization.	
Pronominalization	No use of indexing for pronouns	Use of indexing for pronouns is unclear or minimally present	Use of indexing for pronouns is present and clear during at least 50% of appropriate opportunities	Use of indexing for pronouns is present and reference is clear in most appropriate instances	Use of indexing is used consistently in all appropriate opportunities and reference is clear.	

Points earned/Points possible ____/28= ____%
Visual Grammar Rating _____

Visual Grammar Rubric Analysis: Poor= 0-24%; Emerging= 25-49%; Beginning= 50-74%; Developing= 75-90%; Mature= 90-100%

Figure 1   Signed reading fluency rubric for deaf children.

APPENDIX C

EXAMPLES OF INDEPENDENT INTERPRETATION

Text: "When Grandma takes me shopping, she listens to me."

Kara's interpretation: SHOP LOOK-AROUND TALK ENJOY

ASL Features:

1. Kara did not use the sign GRANDMA even though that word appeared in printed text. Subjects in ASL stories are introduced and then all subsequent grammar and action is applied to that subject until the subject is changed. As the grandmother had been introduced on the previous page, ASL storytelling does not necessitate repeating the character's name. Kara had originally signed GRANDMA the first time she read the story following the English words. Thus her omission of GRANDMA in the second version is one element that shows the independent translation from English to ASL

2. The phrase "takes me shopping" begins with a multiple meaning verb. In ASL, each concept of a multiple meaning word is usually depicted by a different sign. The sign TAKE in ASL typically represents the action of physically taking something away from someone. Kara had used this sign the first time she read the story. During her second reading though, she chunked the phrase "takes me shopping" into the equivalent ASL concept SHOP. She also added the sign LOOK-AROUND, further describing what type of shopping experience the boy and his grandmother had (e.g., window shopping instead of buying several items).

3. Kara's use of the sign TALK included an eye gaze shift and a side to side head nod that indicated a pleasant conversation lasting for a short while. She then described this conversation by adding ENJOY, explaining that the little

boy was enjoying his conversation with Grandma (as opposed to his earlier conversations with Mom and Dad who had been too busy to listen). This emotion was not explicitly stated in the text; thus Kara's enhancement of the interpretations shows an understanding of the cultural and linguistic use of ASL for storytelling.

APPENDIX D

ATOS READABILITY FORMULA

The Accelerated Reader (AR) program was developed by Renaissance Learning, Inc. to address the varying literacy needs of elementary aged schoolchildren ("Using Readability Levels," 2006). The AR Program utilizes computer based software using the Star Reading Enterprise to determine each child's reading level using the ATOS readability formula ("Star Reading Enterprise," 2013). The research guiding the ATOS formula is derived from the following three areas: 1) the most influential characteristics of text, 2) the world's largest database of words taken from actual books, which accounts for about 500 million words in nearly 30,000 books, and 3) comprehension statistics calculated from 30,000 students reading close to one million books. The ATOS software is able to calculate readability levels of books from full-text computer scans as opposed to the short sample passages other readability formulas use. The ATOS for Books formula was uniquely designed using statistics taken from full texts that children read, rather than just the short passages used by other readability formulas.

"Using Readability Levels" (2006) further explains that once a child's readability level has been determined, the child is given a zone of proximal development (ZPD) to follow when choosing books to read individually. Reading within the ZPD range allows a child to select books that are neither too easy nor too hard. For instance, a child with an ATOS reading level of 3.5 will be assigned a ZPD of 2.8 - 4.0. Once given a ZPD to follow, the child can then select an appropriate level book, read the book, and take a computerized comprehension test over the material covered in that book.
Each book is worth a certain number of points, starting at 0.5, and the child is awarded a certain percentage of the points based on the test grade. For example, if a child tested on a book that was worth 0.5 points and got one hundred percent of the

questions right, the child would be awarded 0.5 points. If the child only got eighty

percent of the questions right, the child would only be awarded 0.4 points. The child

must answer at least sixty percent of the questions correctly to be awarded a

percentage of the points. Test scores of less than sixty percent do not receive any

points.

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