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SPECIAL EDUCATION TEACHERS, LITERACY, AND STUDENTS WITH MODERATE AND SEVERE INTELLECTUAL DISABILITY: A SURVEY

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SPECIAL EDUCATION TEACHERS, LITERACY, AND STUDENTS WITH
MODERATE AND SEVERE INTELLECTUAL DISABILITY: A SURVEY

DISSERTATION

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in the College of Education
at the University of Kentucky

By
Ann Katherine Griffen

Lexington, Kentucky

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Professor of Special Education

Lexington, KY

2017

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ABSTRACT OF DISSERTATION

SPECIAL EDUCATION TEACHERS, LITERACY, AND STUDENTS WITH MODERATE AND SEVERE INTELLECTUAL DISABILITY: A SURVEY

Literacy includes many skills involving the use of language to read, write, listen, and speak. The ultimate goal in acquiring literacy skills is to function as independently, and in as integrated a manner as possible, in a literate society. Literary skills are critical skills for all students, both with and without disabilities. Since the 1990s, literacy has moved closer and closer to the forefront of our collective awareness regarding students who are at risk of not acquiring sufficient literacy ability. However, students with moderate and severe intellectual disability (MSID) have not always been included in this group of students. In recent years, there has been a greater effort to examine how to provide literacy instruction in a more complete and comprehensive manner for students with MSID. At the present time, there is limited research obtained directly from classroom teachers on their knowledge, beliefs, and practices about students with MSID and literacy. If we are to make effective and meaningful changes in literacy instruction for students with MSID, it is important to further investigate these variables as reported by teachers themselves. This research study examined, through the collection of survey data, teachers' perceptions about literacy skills for students with MSID. The research questions were: (a) What do classroom teachers of students with MSID in Kentucky report as having learned in their university/college teacher preparation programs about literacy? (b) What do special education teachers in Kentucky believe about their students with MSID and literacy? and (c) In which literacy skill areas (phonemic awareness, phonics, vocabulary, fluency, and comprehension) do teachers of students with MSID in Kentucky report they are providing instruction?

Key Words: Literacy, Moderate, Severe, Disability, Students, Teachers, Survey.

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May 24, 2017
Date

SPECIAL EDUCATION TEACHERS, LITERACY, AND STUDENTS WITH
MODERATE AND SEVERE INTELLECTUAL DISABILITY: A SURVEY

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Chapter One

Introduction

Literacy includes many skills involving the use of language to read, write, listen, and speak. The ultimate goal in acquiring literacy skills is to function as independently, and in as integrated a manner as possible, in a literate society. Literary skills are critical skills for all students, both with and without disabilities (Kozol, 1985).

Since the 1990s, literacy has moved closer and closer to the forefront of our collective awareness regarding students who are at risk of not acquiring sufficient literacy ability. However, students with moderate and severe intellectual disabilities (MSID) have not always been included in this group of students (Erickson, Hatch, & Clendon, 2010). The Individuals with Disabilities in Education Act (IDEA) of 1997 and 2004, the No Child Left Behind (NCLB) Act of 2001, now known as the Every Student Succeeds Act (ESSA), and the Race to the Top (RTTT) in 2009, each had an impact in shaping our beliefs and actions in examining literacy and students with MSID. In recent years, there has been a greater effort to examine how to provide literacy instruction in a more complete and comprehensive manner for students with MSID.

At the present time though, there is limited research obtained directly from classroom teachers on their knowledge, beliefs, and attitudes about students with MSID and literacy. Some exceptions include Ruppard, Dymond, and Gaffney (2011), who examined special education teachers' perspectives on how to select appropriate literacy skills to teach and the environments in which to teach these skills, as well as Kliever and Landis (1999) who investigated teachers' perceptions about individualization during literacy instruction for students with MSID. Copeland, Keefe, Calhoun, Tanner, and Park

(2011) provided another perspective in their interviews with university teacher educators about the issues in preparing their university students to “effectively teach literacy skills to students with significant disability” (p. 126). Also of note is a national survey of directors of special education (DOSEs) who stated that providing literacy instruction to children who were nonverbal was not an instructional skill area in which teachers of students with multiple disabilities (MD) or other health impairment (OHI) were highly knowledgeable (Heller, Fredric, Dykes, Best, & Cohen, 1999).

As the curriculum for students with MSID evolves and as we look more carefully at literacy and students with MSID, a related issue is how we, as special educators, will determine the sources of information and the data from which decisions about literacy will be made. From journal articles presenting research about literacy skill instruction with students with MSID, we can mostly glean relevant information about exactly that: Information about those specific research studies teaching some component of literacy skills with this population of students. What may be missing in the research literature is information about the general, everyday literacy instruction teachers of students with MSID are implementing in their classrooms.

Extensive and thorough literature reviews have been conducted for the purpose of examining literacy skills and students with MSID (Browder & Lalli, 1991; Browder, Wakeman, Spooner, Ahlgrim-Dezell, & Algozzine, 2006; Browder & Xin, 1998; Joseph & Seery, 2004; Saunders, 2007). Based on the information obtained from these literature reviews, a picture emerges. In the case of literacy skills and students with MSID, what we see from the articles is a past in which there was primarily a focus on word identification skills. In the laboratories of the 1960s, basic research on the advantages of “errorless

learning in the acquisition of a discrimination” (Browder & Lalli, 1991, p. 214) led to “applications of these procedures for teaching sight words [that] soon followed” (Browder & Lalli, 1991, p. 214).

Limited research can be found in these past decades on providing instruction for students with MSID in the literacy areas of phonemic awareness, phonics, vocabulary (in its true breadth), comprehension, and fluency. Phonemic awareness skills can be defined as learning to identify spoken words beginning with the same sound, identifying the sounds at the beginning and ending of spoken words, and stating the individual sounds in a spoken word. Phonics instruction focuses on learning the relationship between the written letter and the letter sound in order to recognize familiar words and decoding unfamiliar words. Vocabulary skills are using words when speaking, comprehending spoken words, understanding word concepts, and reading written words. Comprehension skills involve understanding and acquiring meaning from oral and written words, and from text. Fluency is the skill of reading quickly, with few mistakes, and reading with expression.

However, in response to these literature review findings, particularly to those published by Browder and Xin (1998), Browder et al. (2006) and Joseph and Seery (2004), a shift occurred in the field of special education with significantly fewer publications on word identification instruction (Erickson et al., 2009). The “misclassification of sight word instruction as vocabulary instruction” (Erickson et al., 2009, p. 87) in the research literature also has added to the misunderstanding about the research to date, as well as future research needed about literacy and students with MSID (Erickson et al., 2009). Between 2003 and 2009, there were a small number of research

studies in each of the areas of literacy that focused on participants with significant intellectual disability (ID) as well as those with unspecified or less severe ID (Erickson et al.). Fluency is a literacy area that has been especially bereft of research studies with participants with MSID.

The misunderstanding about word identification, what it is and is not, and how it fits within the literacy area of vocabulary is important to clarify. Neuman and Dwyer (2009) state:

Vocabulary refers to the words we must know to communicate effectively: words in speaking (expressive vocabulary) and words in listening (receptive vocabulary). Children use the words they hear to make sense of the words they will eventually see in print. Vocabulary instruction, therefore, must be more than merely identifying or labeling words. Rather, it should be about helping children to build word meanings and the ideas that these words represent. By understanding words and their connections to concepts and facts, children develop skills that will help in comprehending text. (p. 385)

Vocabulary connects most directly to reading via language comprehension. For a beginning reader, print is restated as speech in order that the learner's oral language skills, which are likely much larger than their reading vocabulary, can be utilized. "At this early stage, words must already be in a reader's oral vocabulary for the printed form to be translated meaningfully into a known word" (Erickson et al., 2009, pp. 85-86).

Word identification is defined as the element of reading that changes print into spoken word. This word identification happens in two primary approaches, "through *decoding*, or using letter-sound knowledge to construct a pronunciation, or through *word recognition*,

which requires readers to use their familiarity with the spelling of a word to match the printed word with a pronunciation stored in memory” (Erickson et al., p. 86). Novice readers or “those in a prealphabetic phase who lack knowledge of letter-sound relationships, read words by remembering selected visual features of the word” (Erickson et al., p. 87). The prealphabetic phase is the most initial reading stage of all and these learners do not yet have understanding of the letter-sound connections (Ehri, 2005). The steps for moving past the prealphabetic stage and into learning using a sight word approach begin with making the link between graphemes (letter and letter combinations) and phonemes (units of sound). This is done through decoding to determine how the word is pronounced. The word is then stored in one’s memory.

Readers must have phonemic awareness and knowledge of the alphabetic system to engage in this route to sight word recognition. Once students have achieved this alphabetic stage of word decoding, seeing words in print facilitates learning the meaning of new words. It is only at this point that word identification and vocabulary learning overlap. Prior to this alphabetic stage of word decoding, there is no evidence that printed words support vocabulary learning. (Erickson et al., p. 87)

Therein lies the crux between the different understandings about what word recognition actually is and how it fits within the larger literacy area of vocabulary, particularly for students with MSID. The use and understanding of the term “sight words” also may be problematic when trying to bridge the communication gap between low-incidence special educators and those who have vast experience in literacy instruction. Sight words as a term in special education seems to most often refer to an instructional word identification

approach that relies on visual recognition, while for literacy experts, the skill of recognizing words by sight or sight words is the level at which the most fluent and skilled readers read.

It also is important to note that journal articles may present a clear view of only what has occurred in those particular research studies. While many types of research are possible to conduct, often, research studies involve a university professor or other researcher in higher education guiding or supporting a classroom teacher or other member of the university research team in implementing a study. Studies may be conducted based on the professor's research interests or as a component in completing a graduate degree, in which case the teacher (e.g., graduate student) may have a more active role in determining the research questions and how they are investigated.

In examining journal articles with only certain types of research studies, there may be some missing pieces. Do the particular research studies presented in journal articles capture all of the literacy instruction that takes place in those classrooms and schools? Do we know with certainty that teachers who are participating in the research published in journal articles, along with other teachers of students with MSID are not, for example, teaching phonemic awareness or phonics skills? Is it possible these instructional activities are occurring outside the strictly defined parameters of a research study? Is it possible classroom teachers of students with MSID are creating literacy materials in order to provide their students with more in-depth reading experiences than simply learning word identification skills through instruction on sight words? If we are to make effective and meaningful changes in literacy instruction for students with MSID, it seems important to better determine the answers to these questions.

In order to ensure teachers' beliefs about the capabilities of students with MSID to become highly literate members of society are based on content knowledge as well as on having high expectations, we also must examine these issues in a specific and in-depth manner. This research study proposes to make a contribution toward that effort.

Problem

This study examined, through the collection of survey data, teachers' perceptions of what they learned, or did not learn, in their teacher preparation programs about literacy skills for students with MSID. Questions also explored teachers' beliefs and expectations about literacy skills for this group of students and variables that may impact the teachers' current beliefs, expectations, and practices. Quantitative data were obtained from the survey questions and analyzed through statistical measures (Nardi, 2006). An analysis of the data, themes, and patterns in the open-ended survey questions was determined via quantitative and qualitative analysis to record these data as they emerged during the analysis process (Bogdan & Biklen, 2007; Glesne, 2006, Maxwell, 2005; Riessman, 1993; Seidman, 2006).

Chapter Two

Literature Review

Literacy is the key that opens many doors but the opportunity to become a literate person has been firmly tied to the rights and privileges one has attained in a given society or culture. From a historical perspective, the opportunity to become literate was long the exclusive domain of the wealthy and even among this privileged group; education beyond basic literacy was primarily limited to men. There were notable exceptions such as the poet Anne Bradstreet (1612-1672), whose family provided to her a multitude of tutors. However, from the beginning of America as we know it, people without rights or social standing most often received little, if any, education (Gordon & Gordon, 2003).

A look at the history of education in the United States beginning in Colonial America (1620-1789) clearly shows the social stratification of literacy. The accepted definition of literacy itself at the time also is revealing. Men were considered to be literate if they could write their name rather than making a mark, which strains one's belief in the accuracy of any literacy data from the period (Gordon & Gordon, 2003). The measures by which literacy in those early times in America have been determined are full of gaps and holes, as are the exceptions that exist in the overall generalities about what we know. There were well-educated girls and women; most particularly in wealthy families while, at the same time, the general culture also demeaned education for women beyond the basic level needed to provide the early educational experiences of their children. Mothers were expected to read well enough to teach their children beginning reading skills and they often taught their children to write letters and words as part of this

reading instruction. For the women themselves, most often there was little emphasis or value placed on writing skills. Women did not conduct business matters and had no legal standing or rights as independent persons; therefore basic writing skills like those appropriate for a young child were sufficient. Many girls, even among those who received some type of schooling, often did not acquire the skill of learning to write their own name (Gordon & Gordon, 2003).

In Colonial times, the illiterate most often included women. It also included men, especially men who were poor; indentured servants; immigrants (the most recent and the poorest); African slaves; Native Americans; and those who had a disability, either physical or intellectual. The opportunity to become a literate person has followed hand-in-hand with fiercely fought battles for civil and educational rights. Persons with ID often have been the last to be considered when it comes to educational opportunities. Society's inclusion of these disparate groups of people, often the most disenfranchised members of our society in terms of education and literacy, could be viewed as a long straggling line with white men of privilege often still at the front of the line (Sizemore, 2008; Stacey, Bereaud, & Daniels, 1974).

In Colonial America, exceptions in the prevailing thoughts and attitudes about the education of girls occurred on an individual basis from family to family with variance also noted geographically when comparing New England, the Middle Atlantic, and the Southern Colonies. In general, the further south, schools of any kind were less prevalent than in New England. There were exceptions. In early 18th century Colonial New France, the Ursuline nuns of New Orleans chose to focus their efforts on the education of young girls: African American, French American, and Native American girls. This "Ursuline

convent and school for girls has operated in New Orleans without interruption to this day since its inception in the colony in 1727” (Gordon & Gordon, 2003, p. 73).

Educational opportunities for African American children followed a similar trajectory as the path of girls with even more barriers in place and barriers that remained for a longer period of time. In 1853, a resident of Norfolk, Virginia, Margaret Douglass opened a school in her home and began teaching reading and writing to children of former slaves. She received a jail sentence of 1 month for this crime. The punishment was meant to serve as an example to others inclined to provide educational opportunities to African Americans. In 1896, *Plesy v. Ferguson* created the law of “separate but equal” when all knew the equality component of the law for the lie it so blatantly was (Jones-Wilson et al., 1996).

Early 20th century mental testing was grounded in the premise of American eugenics that races other than those of northern European stock were intellectually inferior, and that the purity of the superior races should be preserved by segregating the feeble-minded. From Reconstruction until the 1950s, the dominate view of African American education was that it was intended not to educate for equal citizenship, but rather for the lower rank positions that it was assumed African Americans would occupy. (Skiba et al., 2008, p. 265)

Katims (2000) discussed the isolated attempts to provide literacy instruction to persons with ID (e.g., Juan Pablo Bonet, Spain, 1600s; Jean Marc-Gaspard Itard, France, early 1800s; Edouard Onesimus Seguin, France, 1837; John Jakob Guggenbühl, Swizerland, 1839) and also pointed out that during 19th century America, state laws were passed to establish compulsory education. Rhode Island was the first to do so in 1840,

Massachusetts following in 1852, and with passage in all states by 1918; however, students with disabilities were not typically welcomed into the general population of students. The lack of educational and social inclusion can be seen in Samuel Gridley Howe's establishment of the first public institution for persons with ID in Massachusetts in 1848. While the majority of American families in the 19th and early 20th century did not relinquish their children to state institutions, there was a strong push to do so not only for the good of the family itself but for the greater good to society (Ferguson, 2009). This exclusion of students with disabilities was validated by the state court system. For example, Yell, Rogers, and Rogers (1998) remind us that

the Massachusetts Supreme Judicial Court ruled that a child who was 'weak in the mind' and could not benefit from instruction, was troublesome to other children, and was unable to take 'ordinary, decent, physical care of himself' could be expelled from public school. (Watson v. City of Cambridge, 1893, para. 5)

Similar court cases continued throughout the 20th century, reflecting the revulsion that much of American society felt towards those with disabilities and their perceived differences.

The Wisconsin Supreme Court, in *Beattie v. Board of Education*, (1919), ruled that school officials could exclude a student who had been attending school until the fifth grade. The student had a condition that caused him to drool and have facial contortions, as well as a related speech problem. School officials claimed that this condition nauseated the teachers and other students, required too much time, and negatively affected school discipline and progress. The school officials

expelled the student from school and suggested he attend a day school for students who were deaf. (Yell et al., 1998, para. 7)

Case after case provides examples of states excluding students with disabilities from schools. This exclusion continued even into the late 1950s when the Supreme Court of Illinois, in *Department of Welfare v. Haas*, held that the state's compulsory attendance legislation did not require the state to provide a free public education for the 'feeble minded' or children who were 'mentally deficient' and, who, because of their limited intelligence, were unable to reap the benefits of a good education. (Yell et al., 1998, para. 10)

Notwithstanding past history, in the last 60 years an increasing amount of consideration has been given to providing literacy opportunities for all persons. American society has grown and changed with each passing decade since colonial times and the reasons for these developments are complex with dense layers of variable after variable. At times, there have been carryover effects as a certain group achieved greater rights, which, in turn, served as precedence and provided a model for those following behind engaged in their own struggle. It has not always happened quickly though, and is often clearer in historical hindsight. For example, the 15th Amendment to the Constitution gave all men the right to vote regardless of "race, color, or previous condition of servitude" (Section 1, Amendment XV). This amendment was ratified in 1870. Even so, it took the fiercely fought battles of the civil rights movement of the 1950s and 1960s almost 100 years later to abolish the most odious racial segregation including restrictions on the voting rights of African American men and women. This is an attitudinal, educational, and economic battle that continues today. Women in America gained the right to vote in

1919 through the 19th Amendment to the United States constitution that achieved ratification in 1920. More equal parity between women and men in terms of employment consideration and value as fully participatory members of society trailed along decades later and in many ways, these too remain issues in American society (Stacey et al., 1974; Woody, 1929).

The history of persons with disabilities follows a similar arc of disenfranchisement and seclusion, shunted aside as persons without value in our society. The battle for the civil rights of those with disabilities drew heavily from the fight for civil rights by African Americans and those who supported them. At the very core of these battles lies a belief in the worth of all persons and their right to access opportunities to learn, grow, and contribute as fully included members of society (Heward, 2006; McDonnell & Hardman, 2010).

Parents in the mid-20th century began to listen less to the advice of medical practitioners, instead trusting their own instincts and moral convictions in taking their babies with disabilities home from the hospital rather than allowing them to be whisked away to institutions. And, as the civil rights battles were held up as a model, questioning the educational services for children with disabilities became more strongly worded and sharply focused. In spite of it being “a time when not only the rights of mentally retarded people but the rights of blacks, women, and many other groups could be dismissed with paternalistic amusement” (Ozolins, 1981, p. viii), those who believed in equality for this group of citizens with ID began to find their voice. In 1975, PL 94-142 created enormous changes in the ways in which instruction was delivered to students with significant disabilities in the United States. In the decades to follow, segregated facilities and schools

for students with disabilities began giving way to self-contained classrooms in typical public school settings. In time, from these self-contained classrooms, small steps began towards inclusion in general education classrooms. As always, changes occur because there are those who are looking, thinking, and questioning, especially when the status quo indicates a certain group has been allotted fewer civil and educational rights than others (Blatt, 1981; Heward, 2006; McDonnell & Hardman, 2010; National Research Council, 2001).

Evolution of Curriculum for Students with MSID

Developmental curriculum model.

Against this backdrop of changes in the settings in which educational services were delivered to students with disabilities, the curriculum for these students also continued to evolve. As some students with MSID began to receive more educational services in the institutional settings themselves and as students began to transition from various settings (e.g., institutions, segregated centers, home-based instruction) to segregated public schools in the 1970s, the educational curriculum was developmental in its approach (Browder & Spooner, 2006; Collins, 2012).

As its name implies, this developmental curriculum was based on the student's mental age. The educational focus originated in skill sequences appropriate for infants, toddlers, and preschoolers without disabilities. This curriculum model was used regardless of the chronological age of the person with disabilities. In addition, there was a mindset or belief held by many special educators of the time that skills must be acquired in a rigid, sequential order. This approach frequently resulted in students spending inordinate amounts of instructional time learning skills always at a beginning level without ever

moving on to subsequent skills. Prerequisite skills deemed to be required often formed a barrier to learning more age-appropriate, meaningful skills. While alternatives to life in an institution were a positive step forward, the developmental model and its uncompromising adherence to strictly defined skill sequences frequently proved to be a disaster for students and their families. It often resulted in students in their teens and early adulthood working on preschool tasks using preschool materials and led to a sheltered workshop as their only post-school employment option. The curriculum focus often created a heightened degree of dependence on others after the students finished their public school education. A developmental curriculum model did not allow for the students' acquisition of the skills needed to become as independent and as fully integrated as possible into their K-12 educational community or their subsequent post-secondary education, adult work, and community lives (Downing, 2010; Heward, 2006).

Functional curriculum model.

The 1980s saw significant changes in special education services for students with MSID as a result of implementing a functional curriculum represented by the domains of community, vocational, domestic, and recreation-leisure skill areas (Browder et al., 2004; Brown, Branston, Pumpian, Certo, & Gruenewald, 1979). These changes occurred as a direct response to the limitations inherent in the developmental model and came about because families and educators who cared about the lives of students with MSID advocated, pushed, and prodded to make the changes a reality. The research and advocacy of Lou Brown, University of Wisconsin at Madison, among others, helped provide a focus on chronological age-based skills needed in both current and future environments (Browder et al., 2004).

Academics are an important part of this functional curriculum but they are, in general, thought of as academics that are functional in nature. It is important to clearly define functional academics because its meaning and significance may vary across individuals, families, and special educators. There also may be variance in how a functional academic skills instructional approach is implemented by classroom teachers in public school and community settings.

It could be argued that all academic skills are, or should be, functional. That is, they should be meaningful and immediately useful as well as lead to greater knowledge and independence in future life settings. In addition, it may be asserted this should hold true for both students with and without disabilities. For our purposes, we will follow in the footsteps of Brown, Neitupski, and Hamre-Neitupski (1976) who defined functional skills as those skills most critical in creating the greatest possible degree of independence across current and future home and community (including school and work) settings. Functional academics are directly linked to and targeted as instructional stimuli in support of greater independence in the skills in the life domains (i.e., self-help, daily living, vocational, recreation/leisure).

For some in special education, functional academics in literacy is limited to the identification or reading of words, or words plus pictures/symbols, taught with a sight word approach (learning words as a complete entity based on an overall visual configuration of the letters in a given word without any specific focus on the individual letters or letter sounds). For others, sight word instruction also incorporates other aspects of literacy skills such as letter identification (spelling the letters in a word), letter sounds (but perhaps only the initial letter sound rather than all letters or consonant blends), or a

related piece of nontargeted information (e.g., hola is the Spanish word for hello) presented during the antecedent or consequent event. Nontargeted information is the additional information (related or unrelated) presented during an instructional trial.

Examples of functional literacy stimuli that may be targeted for instruction include words or symbols used in preparing food and drink recipes, locating and purchasing items in grocery stores and community shopping locations, checking out books from the public library, washing and drying laundry, and participating in recreation/leisure activities such as reading books; going bowling, swimming, or to the movies; etc. The possibilities for stimuli are vast and also include safety words or symbols, individually meaningful words found in the student's home and community, and words or symbols relevant to the student's personal interests with friends and family and their employment options and job tasks.

Inclusion and alternate assessments.

By the 1990s, based on a philosophy of social justice (Connor, 2014; Thomas & Vaughan, 2004; Wasserman, 2001), increased emphasis on inclusion of students with MSID within the general education setting had begun to take place (Downing, 2010). Often, at least initially, this inclusion focused on the opportunity to practice communication skills and on the benefits of social interactions between students with and without disabilities. Having an effective and easily accessible communication system in place is of the highest priority for all students with MSID, so inclusion with this focus on communication skills and social interactions provided a good beginning. In time, the goals for inclusion of students with MSID expanded to include a greater focus on grade level academic skills while still finding an individually appropriate balance with functional life

skills (Browder & Spooner, 2006; Browder & Spooner, 2011). An additional quest is to make the grade level content not only accessible but meaningful and relevant to the lives of students with MSID.

Changes continue to take place in the attitudes and beliefs that we, as a nation, have about the education and inclusion of students with MSID, especially with regard to literacy. Our philosophical beliefs, including attitudes and expectations, as well as the laws that affect students with disabilities play a determining role in what we do in schools and these legal considerations, in turn, impact colleges and universities and how teachers are prepared. At the beginning of the 1990s, Kentucky, along with Maryland, was at the forefront of the changes in school accountability and the inclusion of all students in the assessments to measure and monitor accountability (Kleinert, Kennedy, & Kearns, 1999; Quenemoen, 2008). Alternate assessments were developed for those students with the most significant disabilities whose individualized education program (IEP) team determined the student could not successfully participate in the general assessment measures, even with accommodations.

By the end of the 1990s, federal laws again impacted the learning environments and assessment procedures of students with MSID. As discussed in Quenemoen (2008), the Individuals with Disabilities Education Act (IDEA) of 1997 required alternate assessments as a federal mandate and included the following statement from Congress:

The implementation of this Act has been impeded by low expectations, and an insufficient focus on applying replicable research on proven methods of teaching and learning for children with disabilities. Over 20 years of research and experience has demonstrated that the education of children with disabilities can be

made more effective by having high expectations for such children and ensuring their access in the general curriculum to the maximum extent possible. (pp. 4-5)

While it had been adequate to have access to schools where students without disabilities also were in attendance, now students with MSID were to be viewed as rightful members of general education classes to the maximum extent possible and were included with all students in the push for higher expectations and achievements (Quenemoen, 2008).

During the latter part of the 1990s, the curriculum for students with MSID was primarily a functional one and in some school districts and states that appears to be a continuing trend (Lee et al., 2013; Ruppert et al., 2011). Among special educators at all levels including classroom teachers, principals and other administrators, university faculty, and others, as well as among families, there appears to be differences of thought on how to best to implement learning objectives, including literacy skills, for students with MSID across an individually appropriate balance of general education academic core content and functional skills (Ayres, Lowery, Douglas, & Sievers, 2011; Courtade, Spooner, Browder, & Jimenez, 2012). Federal laws, and those who strongly believe in inclusion, continue moving special education in the direction of a core content standards-based curriculum for students with MSID with consideration given to students' individualized, functional learning needs (Browder & Spooner, 2011). In 2015, guidance on the alignment of students' IEPs to state academic standards or alternate achievement standards was provided by the United States Department of Education, Office of Special Education and Rehabilitation Services (OSERS). The letter noted the responsibility of all educators in creating high expectations for each student learner and referred to research

indicating students with disabilities can learn given appropriate educational experiences and assistance, while conversely, low student expectations yielded low learning results. Browder (2015) contributed to this focus while writing in the OSEP-funded National Center and State Collaborative (NCSC) issue brief on the use of standards-based IEPs for students who complete the alternate assessment based on the alternate achievement standards. A discussion of IEPs noted they must be individually determined and appropriate while incorporating academic content standards as well as other skill areas (e.g., communication skills, life skills). While the IEP is not the curriculum, it is a reflection of the standards along with the student's individualized strengths and needs in all skill areas. For example, an IEP objective for the literacy skill of fluency could be addressed across the language arts, mathematics, science, and social studies curriculum and well as through the recreation/leisure skill of reading comic books or a recipe reading life skill. This information helps illuminate a path for students with MSID that includes more learning opportunities amid higher expectations, across all areas of instruction, academic and non-academic, bound together by the individual needs of students.

Legislation Effects on MSID Curriculum

An additional impact on literary skills occurred through the No Child Left Behind (NCLB) Act of 2001, a reauthorization of the Elementary and Secondary Education Act (ESEA, now ESSA), that focused on states' establishing high student achievement standards and assessments and measuring the acquisition of those content standard skills including literary skills. The Reading First Initiative (Part B, Subpart 1 of Title I of NCLB) established under NCLB, required that reading instruction in grades K-3 include specific instruction on the following reading skill areas: (a) phonemic awareness, (b)

phonics, (c) vocabulary, (d) fluency, and (e) comprehension. Accountability and dire consequences for lack of progress on the assessment measures in NCLB loomed over classroom teachers, as did the mandate for states to provide teachers deemed to be highly qualified. NCLB was controversial, with issues concerning appropriate curricula, teaching extensively to the assessment tests, and tying teacher salaries to assessment results (Ayres et al., 2011; Bouck, 2009). NCLB, however, helped continue the discussion about educational services for students with MSID and how these students fit in the overall educational structure with all students. It gave consideration to the teaching credentials and highly qualified status of special education teachers. NCLB insured that students with MSID were part of the assessment process, thereby making their instruction and assessment results important. IDEA 1997 was reauthorized in 2004 and contained components (e.g., identification of core academic areas such as English, reading or language arts, highly qualified teacher requirements) that helped align it with NCLB (Browder & Spooner, 2011).

Race to the Top (RTTT) was another variable impacting the education of students with MSID. RTTT was a 4.35 billion dollar fund established in 2009 as part of the American Recovery and Reinvestment Act. RTTT's purpose was to foster innovative reforms in K-12 education. States submitted applications for funding and were awarded points out of a possible 500 for meeting the funding selection criteria. While Kentucky was a finalist in both Rounds 1 and 2, it did not receive any RTTT money in those rounds but did receive money (17 million) in Round 3. Kentucky, an early adopter of the common academic curriculum known as the "Common Core" standards used the money for putting more high-quality advance placement courses in Kentucky high schools,

implementing the core content standards along with professional development for teachers on the new standards, and establishing new teacher assessment and accountability measures.

There were both supporters and those who were critical of RTTT and its criteria and procedures. Some states (i.e., Alaska, Maine, Maryland, Mississippi, Montana, Nevada, North Dakota, South Dakota, Texas, Vermont and Washington) chose not to participate in at least one of the competition rounds for RTTT funds.

States addressed literacy skills through the RTTT grants by their focus on the development of assessment instruments, increasing teacher knowledge, increasing general teaching skills and subject area competencies, and through the monitoring of student success in other subject areas such as math and science, for which literacy skills are a foundation. As efforts are made to improve teaching as a whole, there is an impact on special education. No longer can we think of general and special education as separate entities when the inclusion of students with MSID intertwines us more and more. The knowledge gained through the examination of instructional methods in literacy for students without disabilities, or with mild disabilities, creates a potential impact on the determination of evidenced-based practices for students with MSID (Browder & Xin, 1998).

Seminal Publications Affecting Literacy Instruction

Two reports have impacted the educational focus on literacy in the lives of students with MSID. The first report from the National Research Council (NRC), *Preventing Reading Difficulties in Young Children* (Snow, Burns, & Griffin, 1998), examined reading instruction for children at risk for difficulties in reading. There was a

caveat that the recommendations were relevant to all children, however; the report also stated that “an additional very small population of children with severe cognitive disabilities that limit literacy learning will for a variety of reasons have difficulty ever achieving high levels of literacy” (p. 315). While the report’s focus was not on students with disabilities, knowledge about literacy and students with significant disabilities has been limited and characterized by low expectations. Even given that the NRC report’s focus was on students without disabilities, it helped further open the door in thinking about literacy and students with MSID and expanded our knowledge, in general, about literacy instruction.

The NRC “was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy’s purposes of furthering knowledge and advising the federal government” (p. iv). In part, the report published in 1998 was generated in response to the manner in which reading instruction has been implemented during recent history. The report states:

The field of reading is one that has long been marked by controversies and disagreements. Indeed, the term “reading wars” has been part of the debate over reading research for the past 25 years. The unpleasantness of the conflicts among reading researchers was moderated, if not eliminated, by the realization that all the participants are primarily interested in ensuring the well being of young children and in promoting optimal literacy instruction. (p. v)

The other reason for the report was the belief that enough research was in existence to provide a solid foundation for the NRC’s recommendations. An extensive examination of the empirical evidence was undertaken. While the purpose of the NRC

report was focused on the prevention of reading problems, there is an underlying recognition of the many variables theoretically contributing both to the problem itself and to its remediation. In the words of the committee:

Effective reading instruction is built on a foundation that recognizes that reading outcomes are determined by complex and multifaceted factors. On the assumption that understanding can move public discussion beyond the polemics of the past, we have made it an important goal of this report to make the complexities known: many factors that correlate with reading fail to explain it; many experiences contribute to reading development without being prerequisite to it; and although there are many prerequisites, none by itself appears to be sufficient. Our review of the research literature makes clear, nevertheless, the general requirements of effective reading instruction. (National Research Council, 1998, pp. 313-314)

The recommendations of the NRC focused on the areas of alphabets (phonemic awareness and phonics), vocabulary, fluency, and comprehension as crucial instructional targets in creating successful reading outcomes for students, highlighting the research supporting the recommendations.

The second report was the National Reading Panel's (NRP, 2000), *Teaching Children to Read: An Evidenced-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction*. The NRP was convened through a directive from Congress and was comprised of 14 individuals representing “leading scientists in reading research, representatives of colleges of education, reading teachers, educational administrators, and parents” (p. 1-1). The panel’s purpose was an investigation of the research base for teaching reading along with determining the effectiveness of each

instructional approach and the creation of a document to “present the panel’s conclusions, an indication of the readiness for application in the classrooms of the results of this research, and, if appropriate, a strategy for rapidly disseminating this information to facilitate effective reading instruction in the schools” (p. 1-1).

The panel’s work began by identifying the topic areas to be examined, which it did in two ways. First, the panel began with the topic areas established in the NRC report. Second, members of the panel conducted a series of regional meetings (Chicago, IL; Portland, OR; Houston, TX; New York, NY; Jackson, MS) to talk with community stakeholders in addressing the issue of how best to teach our nation’s children to read. The panel received verbal and written feedback across which several themes emerged including (a) the significant role families play in giving young children the language and literacy interactions that nurture and create future success in reading, (b) the critical need for providing timely and strategic reading instruction to all those children who may fall behind without this intervention, (c) the value of phonemic awareness, phonics, and quality literature as an integral component of all reading activities and how to foster knowledge of the evidenced-based reading strategies with the goal of achieving successful reading skills across all learners, and (d) “the need for clear, objective, and scientifically based information on the effectiveness of different types of reading instruction and the need to have such research inform policy and practice” (p. 1-2).

After establishing the topic areas directly related to reading instruction (i.e., phonemic awareness, phonics, fluency, vocabulary, and text comprehension) as well as areas related to teaching (e.g., teacher preparation, comprehension strategies, reading instruction), the NRP examined a vast quantity of over 100,000 research studies. The

panel determined the inclusion of each according to the presence of the following criteria: (a) included measurements of reading achievement, (b) generalized to larger student population, (c) determined effectiveness and efficiency, and (d) subjected to peer reviewed. The NRP “embraced the criteria in its review to bring balance to a field in which decisions have often been made based more on ideology than evidence” (Armbruster, Lehr, & Osborn, 2001, p. ii). This can be seen in one of the publications (*Put Reading First: The Research Building Blocks for Teaching Children to Read*) based on the NRP findings, with its focuses on the five topic areas of reading instruction (i.e., phonemic awareness, phonics, fluency, vocabulary, and text comprehension), providing to teachers (and others) a detailed but user-friendly instructional packet. (Armbruster et al., 2001).

Even though literacy for students with MSID was not a specific part of these two reports and their findings, the intrigue for special educators occurs in the thorough investigation into the components of a comprehensive reading program. In these reports, there is information about literacy skills that may prove highly valuable for university teacher preparation programs and current classroom teachers of students with more significant ID in learning how to better teach students so they can become more fully included and literate members of society.

The findings of these two reports in 1998 and 2000 had a significant impact on special educators who were beginning to give greater consideration to the literacy skills targeted for instruction with students with MSID, as well as the ways in which these skills could be taught. As effective and efficient literacy skill instruction and its components are identified for students without disabilities or those with learning

disabilities or mild ID, it can serve as a starting point for examining which approaches and strategies might be effectively used with or modified for students with MSID.

Research studies can then focus on students with MSID, specific literacy skills, and the instructional methods and approaches of their classroom teachers.

In addition to the NCR and NRP reports, there were several literature reviews in particular that also had an impact on literacy and students with more significant disabilities. First, Browder and Xin (1998) examined the sight word research specific to persons with ID from the years 1980 to 1997, finding 48 journal articles that fit their search criteria:

(a) had been published in a peer-reviewed journal available in English, (b) had focused primarily on teaching sight words (primary dependent variable) and on interventions to teach whole English words (not phonetic analysis of words, reading phrases, reading a second language, identifying community signs, or Braille reading), (c) had used an experimental design with at least 2 replications (single subject) or one comparison/control (group design), and (d) had involved individuals with a diagnosed disability. (p. 131)

The 48 articles were reduced to 46 that used a single subject research design. In actuality, 32 studies met the further criteria of including linear graph results and a baseline condition. Because several studies contained multiple interventions, a total of 52 interventions were analyzed. The results indicated that “overall, sight word instruction seems to be highly effective for individuals with disabilities” (Browder & Xin, 1998, p. 147). According to the authors, the interventions used to provide instruction on the targeted sight words were effective as evidenced by the participants learning the words.

Second, Browder et al. (2006) looked at the published literature for sight word instruction. This time there was a more restrictive focus on studies with participants with significant ID, omitting studies with students having mild ID. The authors used the five components of reading instruction (i.e., phonemic awareness, phonics, fluency, vocabulary, and text comprehension) as identified in the NRP's report as a framework for their investigation and also examined article research quality using the special education quality research indicators put forth in 2005 by Horner et al. for single subject designs and by Gersten et al. for group research. An initial pool of 128 articles was further scrutinized resulting in 56 single subject and 2 group research studies that met the criteria for all of the quality indicators. The authors note that "consistent with . . . prior publications, this review reveals strong evidence for teaching students with significant cognitive disabilities to read sight words using systematic prompting techniques in a repeated (massed) trial" (p. 400). A new finding was the effectiveness of sight word instruction for students with severe ID.

Much less information was gleaned from the research literature about how to provide instruction on the other areas of literacy (i.e., alphabets [phonemic awareness and phonetics], fluency, and comprehension) for students with MSID. Browder et al. (2006) found only three articles (Basil & Reyes, 2003; Hoogeveen & Smeets, 1988; Hoogeveen, Smeets, & van der Houven, 1987) targeting students with MSID and phonics. Studies that focused on comprehension, either taught directly or assessed as an intervention variable, that also fit the quality indicator criteria were more plentiful, (i.e., 11). Research in the area of fluency typically focused on assessing fluency as a

component of the independent variable rather than a directly targeted literacy skill for students with MSID.

Current Research Focus in MSID

Literature review. In the years since Browder et al. (2006), literacy for participants with MSID continues to be a research focus as vocabulary along with the additional literacy areas of phonemic awareness, phonics, fluency, and comprehension are examined. The category of sight words (word recognition) as encompassing the literacy area of vocabulary in its entirety also may remain an area of misunderstanding among educators.

Using the Browder et al. (2006) and Browder and Xin (1998) literature reviews as the comprehensive investigations of the past research, I examined the subsequent research literature. With the publications from the National Reading Panel: *Teaching Children to Read: An Evidenced-based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction* and from the National Institute for Literacy, The Partnership for Reading: *Putting Reading First: Kindergarten Through Grade 3* as resources, I conducted a search of the literature for data-based literacy interventions with participants with moderate to severe ID or moderate to severe autism.

Search and article selection criteria. The selection criteria used for the journal search were (a) peer reviewed journal articles, (b) at least one participant with moderate to severe ID or moderate to severe autism, (c) participant ages within preschool through adult range, (d) data-based intervention on targeted skills addressing one or more of the five areas of reading/literacy instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension, (e) articles on the targeted skill of vocabulary (sight

words) from 2005, and (f) articles on the targeted skills of phonemic awareness, phonics, fluency, and comprehension from 2001.

Rationale. Search terms were identified based on the literacy areas and disability categories (e.g., vocabulary, sight words, phonics, moderate disabilities, classic autism) as well as by examining the search descriptions in literature review journal articles and evaluating how those authors applied a rigorous degree of thoroughness in their journal searches. Search terms are listed in Appendix A.

A hand search was completed across the following journals from 2001 to 2017: *Exceptional Children*, *Education and Training in Autism and Developmental Disabilities*, *Focus on Autism and Developmental Disorders*, and *The Journal of Applied Behavior Analysis*. These journals were selected as a representative sample of special education research and its range and depth of investigations.

The three peer reviewed journals published by the International Reading Association were also hand searched: *Reading Research Quarterly*, *The Reading Teacher*, and *Journal of Adolescent & Adult Literacy*. The purpose of including these journals was an examination of the research literature on literacy/reading instruction for participants with moderate to severe ID or moderate to severe autism from the general education perspective.

Procedures. The following electronic databases were utilized: Academic Search Premier, Education Full Text, Education Resources Information Center (ERIC), PsychINFO, and Psychology & Behavioral Sciences Collection.

The journal article search covered two distinct time periods: from 2005 for the vocabulary/sight words component of reading literacy and from 2001 for the other four

areas (phonemic awareness, phonics, fluency and comprehension), so the search was implemented across these two phases.

The initial search included all the words associated with the area of vocabulary, along with the disability words and additional search words, and a search was conducted for the years 2005 to 2017. The second search followed the same procedures. Each of the other reading literacy words (phonemic awareness, phonics, fluency, and comprehension) was placed, in turn, with the other categories and a search was implemented from 2001 to 2017. When searching, all terms were grouped or paired with all other listed search words.

Of the 25 articles located to date since Browder et al. (2006), there is an extensive range of targeted skills in this group of articles. There are articles with a singular focus on one literacy skill area and a few that address most or all of the skills (i.e., phonemic awareness, phonics, fluency, vocabulary, and comprehension). Some studies were implemented for relatively short periods of time, others for longer lengths, and one occurred longitudinally with data reported across 3 years. It is an understatement to say there is great variance in the research currently being conducted on literacy skills and students with MSID.

Karl, Collins, Hager, and Ault (2013) identified reading, math, and science core content skills to be taught in the context of a cooking activity with high school students with MSID. Maintenance and generalization data also were collected. Alberto, Fredrick, Hughes, McIntosh, and Cihak (2007) examined the identification of community logos as well as a measure of the students' comprehension of the logo by stating an item that could be purchased from the store or business. Skills targeted by other researchers

include sound-to-letter matching and whole word decoding (Bailey, Angell, & Stoner, 2011), word decoding (Cohen, Heller, Alberto, & Fredrick, 2008), vocabulary word identification (Birkan, 2005; Coleman-Martin, Heller, Cihak, & Irvine, 2005; Collins, Evans, Creech-Galloway, Karl, & Miller, 2007; Mechling, Gast, & Thompson, 2008; Minarovic & Bambara, 2007), oral letter sounds, written letter sounds, and word reading (Bradford, Shippen, Alberto, Houchins, & Floes, 2006), listening comprehension and engagement while reading a storybook (Browder, Lee, & Mims, 2011), comprehension, prediction, turn taking / anticipation, responses to surprise element in story (Browder, Mims, Spooner, Ahlgrim-Delzell, & Lee, 2008), vocabulary or concept identification with a mathematics application (Collins, Hager, & Galloway, 2011), vocabulary word identification with definitions and examples in context (Dogoe, Banda, Lock, & Feinstein, 2011), and vocabulary word identification along with discrete and chained nontarget information and assessment of observational learning of stimuli (Falkenstine, Collins, Schuster & Kleinert, 2009).

Other research studies addressed a range of literacy topics. A study examined the identification of target words using alternative and augmentative communication (AAC) devices to (a) communicate target words via icon sequencing, (b) communicate as many words as possible with icons in 10 minutes, (c) spell as many words as possible in 10 minutes, and (d) encode words from a spelling list (Hanser & Erickson, 2007). Another study using AAC devices examined the use of an iPad to overcome the typical barriers faced by students who are unable to produce sounds. Students with MSID used the iPads to learn phonics skills (Ahlgrim-Delzell et al., 2016). Other studies investigated matching food item logos systematically faded over time (Hetzroni & Shalem, 2005); and a literacy

intervention that included (a) letter sounds, (b) targeted sight words, (c) list of decodable words, and (d) nonsense word lists (Lemons & Fuchs, 2010). In another study, Mechling, Gast, and Krupa (2007) looked at identification of vocabulary words along with matching photos to the words and observational learning of words and photo matching skills. Literacy-based comprehension questions answered through object selection (Mims, Browder, Baker, Lee, & Spooner, 2009); vocabulary identification and the nontarget skill of vocabulary category classification (Smith, Schuster, Collins, & Kleinert, 2011); and literacy skill sets in Spanish and English for reading a book (e.g., turning pages), answering prediction questions, and identification of parts of the story (e.g., the title: Spooner, Rivera, Browder, Baker, & Salas, 2009) also were the focus of research interventions.

Two group studies investigated literacy issues. In one study, Allor, Mathes, Roberts, Cheatham, and Champlin (2010) investigated the effects of a long-term (3 year) reading intervention (skills include phonemic awareness, blending words, blending nonwords, segmenting words, expressive vocabulary, receptive vocabulary, listening comprehension, word attack, phonemic decoding efficiency, letter-word identification, sight word efficiency, and reading passage comprehension) measured in a group design (n=59 across intervention and control, participants with mild to moderate ID, IQ scores 40-69). The *Early Interventions in Reading Program* was used in the intervention and *Open Court*, *Scott Foreman Reading Street*, & *Corrective Reading* as the control. Another group design study, smaller in scope (n=23 across intervention and control, implemented for one school year, using participants with moderate/severe/profound ID, and IQ scores 20-54) examined the *Early Literacy Skills Builder (ELSB)* taught with the

system of least prompts (SLP) instructional procedure as the intervention and the *Edmark* sight word curriculum as the control (Browder, Ahlgrim-Dezell, Courtade, Gibbs, & Flowers, 2008). Further information and summary outcomes for these 25 studies is located in Appendix B.

As documented in these published journal articles, the pieces of the literacy puzzle for students with MSID are being investigated. With each research study, more data are being collected and evaluated. There is a two-part outcome unfolding as this occurs. First, we as special educators are becoming more knowledgeable about the specific literacy skills these individual participants with MSID can learn. Second, our attitudes and expectations are expanding as we, once again, provide more learning opportunities to persons with significant ID and observe their potential grow hand-in-hand with opportunity.

In our quest to learn, special education professionals must rely on the research journals with all of their quality indicators and standards and the peer review process to guide us in making decisions and formulating our thoughts and beliefs about the literacy education of students with MSID. A danger, though, is that the journal articles may not capture all that is occurring in classrooms and, in this omission, may lead us to inaccuracies. Research is designed by researchers, based on what is determined to be the most critically important issues in the field, and are directly focused on the specific research questions to be answered. While extensive information is often included in the description of the participants in a research study, including their skills and learning characteristics, it is less typical to include information about, for example, a classroom literacy approach or the teacher's beliefs and expectations for students with MSID and

literacy instruction. It may be that students and teachers are implementing any number of innovative and creative literacy activities but, if this is not the specific focus of the research intervention in that classroom, these activities may be overlooked or, at least, not reported and documented in the research study. Thus, an incomplete picture may exist.

An additional issue is that as special education and literacy for students with MSID continues to evolve, we are faced with not only preparing well the pre-service teachers entering the field but also in working with school districts and classroom teachers to make sure the professionals who are already teaching also are best prepared. Preparing new teachers may be an easier task than is finding a pathway into the hearts and minds of those teachers already in the schools. Browder et al. (2012) investigated professional development sessions that taught classroom teachers of students with MSID to develop adapted grade level core content. The authors spoke of the need for a significant number of professional development hours (more than 14 hours showed the most effect on student achievement), post training sessions, and instruction provided directly to the participant teachers. These issues are, without a doubt, complex and many-layered at both the pre-service and in-service levels. A first step is finding out more about what classroom teachers know, their beliefs and expectations, and what they are actually doing and teaching with regard to students with MSID and literacy. There may be roadblocks and barriers, and lack of knowledge, leading to low expectations for the students. There also may be shining examples of excellence waiting to be revealed and documented. Likely, there is some combination of both. It is in the more accurate representation of what is truly occurring that we can meet classroom teachers where they actually are and, as needed, bring them further into the realm of possibilities and literacy

opportunities for students with MSID. As was noted here in the beginning chapters, literacy is the key. Instructional opportunities for students with MSID that effectively and efficiently prepare and guide them in becoming as independent and as integrated, as fully literate members of society as possible, will be of value not only to each individual but to us all.

One way to find these answers would be to have the manpower to conduct in-person observations of teachers of students with MSID in their classrooms and collect objective, first hand data on what is occurring and not occurring with regard to literacy instruction. Alas, while that type of direct observation research study can be done, it is extremely cost prohibitive and was not possible to implement for this research study. While there are limitations to self-reported data as compared to objective observations, another way to investigate classroom literacy practices is to ask classroom teachers themselves and those are the research data collected through this survey.

The survey questions for this study were developed based on an examination of the literacy research for all students and how the literacy issues for students with MSID fit within this larger picture. The research clearly indicates how important literacy is in the lives of all persons while noting that many students, with and without disabilities, do not reach their full potential. To ask classroom teachers of students with MSID which literacy skills they are teaching and why, and to begin to identify the sources of and influences on teachers' knowledge and beliefs about literacy skills, are critical variables to examine. We must determine teachers' current practices for students with MSID as part of our efforts in increasing students' literacy skills through effective teacher instruction.

Another factor in the development of the survey questions for this study was an examination of a series of journal articles in which the participants were students with significant ID and some component of literacy skills was the dependent variable. Appendix B contains 25 journal articles published since a previous literature review by Browder et al. (2006). These articles were searched to determine whether any mention was made of specific literacy activities implemented (or determined to be lacking and not implemented) as typical classroom instructional practices in the educational settings from which the study participants originated. This search of the publications was undertaken to validate the theory that journal articles may not provide a completely accurate picture of the literacy activities in public school classrooms or alternate settings other than the activities within the scope of the research study itself.

Some of the journal articles in Appendix A provided information about the study participants' skills in reading functional and core content sight words, reading abbreviations, answering comprehension questions, using picture schedules, and providing word definitions. Other articles used standardized measures such as the *Peabody Picture Vocabulary Test-III (PPVT-III)* (Dunn & Dunn, 1997) to collect dependent variable data but that also served as measures providing information about the study participants and their skills. Bailey et al. (2011) provided participant skill information across the use of high and low technology communication devices, as well communication skills demonstrated through body language, gestures, signs, and word utterances.

One article (Hetzroni & Shalem, 2005) described the 10-13 year old participants as having “no previous sight-word instruction or participation in reading curriculum” (p.

202) from which one might surmise these literacy activities were not a part of the curriculum, at least for these specific students. Browder et al. (2008) included social validity measures from a classroom teacher observing a higher degree of students' inclusion in classroom read alouds following the intervention, which might indicate read alouds as being a typical occurrence. The most information about teachers and classroom literacy activities was found in Browder et al. (2011) when describing one student as having "received over two years of literacy instruction that included read alouds and other skill building" (p. 342), describing one participant's teacher as frequently reading books to the children, and another teacher's unfamiliarity with making book adaptations for students with visual impairments, who therefore had not included the student "in any shared story lessons at the time the study began" (p. 342).

In general, the authors represented in these articles placed an emphasis on literacy applications in discussing their own research results. For example, as noted in Allor et al. (2010):

We encourage educators to seek out reading interventions with proven effectiveness and implement those interventions with high degree of fidelity over a long period of time, individualizing instruction as needed. Educators of students with ID should seek out the expertise of reading coaches and speech therapists as they meet the challenges of teaching students with ID to read. We recognize that we are just beginning to learn how to teach students with ID to read. Only time will tell what this endeavor will teach us. (p. 464)

Even so, in the articles there was either minimal or no specific mention of the literacy culture that did or did not exist, or literacy activities that did or did not occur, as

part of the typical teaching and instructional activities in the participants' classrooms or the research settings. Therefore, it seems accurate to postulate that only information most directly relevant to the specific research questions about literacy was included in these journal articles. This brings us back full circle to the need to further explore what classroom teachers of students with MSID report as teaching, and not teaching, with regard to literacy and why. A search of the research literature did not yield results on this topic.

For teachers who may be doing more than simply teaching sight words, how did they arrive at the decisions to do so? What did they learn, and where did they learn skills that may have put them on the path of, for example, teaching letter sounds and writing words and sentences? Are these teachers creating and adapting books and, if so, why? What are their beliefs and expectations about literacy for students with MSID? Are these teachers who have teaching certificates in both special and general education? Have there been mentoring and collaboration experiences that have impacted their teaching of literacy to students with MSID? Could it be as simple as understanding that the phases of learning (acquisition, fluency, maintenance, and generalization) apply to each and every person and to every possible skill? Is it a philosophical approach in thinking that we all need to use the skills we learn in relevant and individually meaningful ways to become as independent and fully participating members of society as possible? Could it be a belief in the functional curriculum of Brown et al. (1976) as applied to literacy skills, married to a focus on high expectations, social interactions and inclusion, and opportunities to learn meaningful core content? For teachers who only teach sight words at the most basic level with minimal application of the learned words, why is this so? How did these teachers

arrive at their knowledge and beliefs? Which variables influenced their teaching and instructional decisions?

As literacy instruction for students with MSID continues to progress, a clearer picture of what teachers are actually doing in their classrooms is needed, as is an understanding about teachers' beliefs about their students and literacy instruction.

Understanding more clearly what word recognition is and how it fits within the overall literacy area of vocabulary is critically important, as is a better understanding of how to prepare teachers to address all the areas of literacy instruction, particularly for students with MSID. It behooves us to more clearly understand classroom teachers' knowledge, beliefs, and attitudes especially when we are asking them to make changes. All of these thoughts and questions informed the development of the specific questions selected for the survey, which can be found in Appendix C.

Three research questions were posed:

1. What do classroom teachers of students with MSID in Kentucky report as having learned in their university/college teacher preparation programs about literacy?
2. What do special education teachers in Kentucky believe about their students with MSID and literacy?
3. In which literacy skill areas (phonemic awareness, phonics, vocabulary, fluency, and comprehension) do teachers of students with MSID in Kentucky report they are providing instruction.

Chapter Three

Methodology

Overview

Chapter Three provides a description of the methods used in implementing this study. An overview of the study along with information about the development of the survey questions, field-testing procedures, research design, participants and methods for obtaining them, data collection procedures, and how the data were analyzed, is described.

Study Description

The purpose of this study was to examine the learning experiences, knowledge, beliefs, expectations, and practices of public school teachers of students with MSID in Kentucky as they relate to literacy instruction for this group of students.

Survey

The focus of the study was the survey, which was developed on the Survey Gizmo website. It was a survey specifically for teachers who had at least one student with MSID in their classroom or on their caseload. In the state of Kentucky, students with MSID are often referred to with an educational label of functional mental disabilities (FMD), so FMD was the term used in the survey. A word document of the pdf survey is located in Appendix C. However, Kentucky is the only state that uses this educational label so the more widely known acronym MSID is being used in this narrative. The introductory paragraph in the survey explained the focus of the survey on reading literacy skills and its purpose in giving special education classroom teachers a way to communicate, share their thoughts and beliefs, and talk about what they are doing and teaching with regard to literacy instruction. Directions in the second paragraph told the teachers they could complete the survey if they had at least one student with MSID.

Information was provided about the total number of survey questions (32 questions). This paragraph also explained that many questions could be completed quickly through the use of check boxes, etc. It was noted that the teachers could write as much as they wished to answer the questions with the text boxes. The final paragraph in the survey introduction assured confidentiality for the participants and stated that they were giving consent for the research study by completing the survey. In closing this initial section, appreciation was expressed for their help in answering the survey questions.

The survey was disseminated after approval was obtained from the dissertation committee members, University of Kentucky Institutional Review Board (IRB), and the Director of the Division of Learning Services, Office of Next Generation Learners, Kentucky Department of Education. The survey remained open for 38 days.

Survey Questions

As noted in Chapter Two, an examination of current journal articles yielded little information about the presence or absence of typical classroom literacy activities for students with MSID outside the scope of the specific research interventions. The importance of literacy as a key life skill is well documented, as is the need for well-prepared, highly qualified teachers of students with MSID (Berry, Petrin, Gravelle, & Farmer, 2011; Bishop, Brownell, Klingner, Leko, & Galman, 2010). In order to better educate future as well as current teachers in how to provide literacy instruction, there is a pressing need to explore which literacy skills teachers know, which they think are appropriate, and those they put into practice for students with MSID. These survey data, obtained from classroom teachers, may inform and direct investigators in their future

research endeavors in these areas. These variables were the rationale for asking the specific questions in the survey and the impetus behind collecting these data.

The survey questions specifically targeted teacher knowledge, beliefs and expectations, and instructional practices related to students with MSID and literacy. Questions also elicited information about teachers' experiences and student and teacher demographics. There were 32 questions in the survey: 6 open-ended questions using an essay box format where the teachers could provide lengthier responses, writing as much as they wished, and 7 questions could be answered by choosing a response on a Likert scale. There were 11 questions with check boxes presenting an array of answers from which multiple selections were made and 2 questions that had yes/no radio button responses. There were 5 questions with drop down menu choices, and 1 question that utilized a single response option.

The types of questions (e.g., yes or no, Likert scale, check boxes) were selected based on the objective of developing a survey that teachers could complete in a quick but thorough manner, all the while providing the information needed to answer the research questions. The survey was organized in three sections: "You and Your Students," "Literacy Instruction for Students with MSID and University/College Teacher Education Programs," and "You and The Final Questions." Appendix D presents the survey questions along with a listing of independent/dependent variables and measurement levels.

Field Testing Procedures

The survey was field-tested with six educators (four Ph.D., two M.S.) who have classroom teaching experience ranging from 2 to 34 years. The range in the number of

years of teaching experience theoretically corresponds to years of teaching experience likely to be found in the actual classroom teachers who were the potential survey participants. It seems logical that input from a wide array of educators (those with less as well as more classroom experience) would be beneficial in eliciting meaningful feedback about the survey. Given that all of the educators have terminal degrees at the levels stated, even the educator with the fewest years teaching experience has much content knowledge about MSID and perhaps the most insight into a beginning teacher's understanding of the survey questions.

The educators were given the research questions and asked to complete the online survey in order to simulate the experience of completing an actual survey and to provide written feedback about the length of time to complete the survey and their opinion of the validity of the survey questions in answering the research questions. They also were asked to give written feedback about the clarity/understandability of the survey questions by classroom teachers and to make suggestions for any changes in the wording of the questions. Specific feedback by these educators resulted in agreement with the clarity and thoroughness of most of the survey questions but there were e-mail discussions, for example, about adding a question about adaptations or modifications used to teach reading skills and, for this question, giving choices of other examples such as picture prompts and predictable sentences. In addition, there were questions about how to define school geographic locations, while another area of discussion centered on classroom labels. For example, in thinking about the definition of rural, is a rural school one that is located a certain distance outside an urban area and/or one that is in a small town located in a rural county or area of the state or can both examples be defined as rural? What some

school districts refer to as self-contained classrooms may be described as resource classrooms in other locations.

Based on theoretical ranges in definitions and the possible complications resulting from requiring teachers to read lengthy definitions and then correspondingly make their responses, it was decided to allow teachers to self-define according to the presented options in a question. The suggestions from the educators giving feedback resulted in changes, whether in the clarification of a survey question, survey answer choices, or adding/modifying a question.

Using the feedback from these individual educators and from a meeting with a statistician at the University of Kentucky Human Development Institute (HDI), during which time all of the survey questions were discussed at length, several questions were deleted. For example, a separate question about mentoring was omitted but mentoring as a response choice was folded into a list of possible responses for a question about sources of knowledge for teaching reading/literacy skills. A question about the phases of learning and the relationship it may have to literacy instruction was omitted, as were questions about relationships with general educators and school climate. In order to provide inclusive options for gender choices in our changing society and culture without listing all of the many possible choices, "Complicated" was a selection along with the typical "Man" and "Woman" choices and an option of "Decline to Respond" (The GenIUSS Group, 2014). These changes were made based on feedback and helped tighten the focus of the survey questions and the data that would theoretically be obtained from the questions.

Research Design

A mixed-methods approach was used to procure and analyze the data, in both quantitative and qualitative ways. The survey and the data from its dissemination to teachers of students with MSID in the state of Kentucky were used to answer the research questions.

Survey Dissemination

The survey was disseminated through contact with directors of special education (DOSE) in each district in the state of Kentucky. Public schools in Kentucky are most often organized by a county system for all of the schools in that county (e.g., Fayette County, Jefferson County) but within the geographical county area there also may be a city school district (e.g., Boyle County and Danville Schools) or a small independent school system (e.g., Campbell County and Silver Grove Independent Schools). Each of these possible district configurations for schools in Kentucky was contacted.

Dissemination began with two e-mails sent to each individual DOSE. The first e-mail explained the survey to the DOSE and asked if they would be willing to send an e-mail about the survey to their MSID teachers. The second e-mail sent to the DOSE was an e-mail they could forward directly to the teachers. The teachers' e-mail described the study, invited them to participate and be part of answering these research questions, and gave the link to the online survey located on Survey Gizmo. Appendix E contains the e-mail to the DOSE and Appendix F includes the e-mail that could be sent to the teachers.

There were 174 emails sent to DOSEs in Kentucky. Due to the personal nature of the first e-mail (i.e., individual names in the greeting) sent to the DOSE, it took several days to send all e-mails. This was further complicated by e-mails bouncing back due to

errors in the Kentucky Schools Book or the DOSE using a different e-mail format than the standard first name.last name for their e-mail address. Of the 174 e-mails sent to DOSEs, within 5 school days only 37 DOSEs had replied that they would be willing to send the information to their teachers. At this point, phone calls were made to the other 137 DOSEs. When contacted, many requested that the e-mails be sent to them again. When it was not possible to speak personally with a DOSE, voice-mails were left and the e-mails resent without waiting for a response from the DOSE.

Jefferson County Public Schools (JCPS), the largest school district in Kentucky, requested that an application be submitted to their Institutional Review Board (IRB). After JCPS considered the application, a decision was made that the survey would not be sent out to the teachers until several weeks later, which was during the last week of the school year. Information about participating in the survey was sent to the JCPS MSID teachers at that time and then the survey was closed 6 days later.

The director of the Mid-South Regional Resource Center (MSRRC) also assisted by disseminating the survey through the Low Incidence Consortium. The information was sent to university professors throughout Kentucky who were members of the consortium asking the professors to forward the e-mail to any of their university students who were classroom teachers of students with MSID.

After the initial e-mail, a follow-up group e-mail was sent several weeks later to all of the DOSEs (except for Jefferson County) asking them to again forward the teacher survey participation invitation e-mail that was attached, which would serve as a survey participation reminder, to their teachers. Appendix G contains the teacher e-mail reminder that included a slight change in the approximate number of minutes needed to

complete the survey. This change was made based on the range of completion times in the surveys completed to date.

Research Participants

Estimations of the number of teachers of students with MSID in the state of Kentucky have been suggested but the specific number of teachers in this teaching category was not possible to obtain. The Kentucky Department of Education (KDE) replied to a data request for this information by stating that such data for the state were not collected. However, the limited population of even the estimated numbers for this category in Kentucky of teachers of students with MSID lend themselves to the feasibility of an attempt to reach all the potential teacher participants in a census type survey design (Suskie, 1996). A survey that covers the population of interest in its entirety is referred to as a census survey. Therefore, this was the approach used in disseminating the survey.

Data Collection Procedures

Survey data were stored on the secure Survey Gizmo server until the survey closed. At this time, the data were downloaded into an Excel program located on an office computer in Taylor Education Building, University of Kentucky, which was password protected.

Data Analysis

An initial assessment of the survey questions was made to determine which questions were dependent measures and which were independent. The level of measurement (nominal, ordinal, interval, ratio) that could be obtained from each question, which is an initial step in preparing for the data analysis (Nardi, 2006), also was

made. Appendix D contains each of the survey questions and its designation as an independent or dependent variable and the level of measurement.

Once the survey data were collected, data were analyzed question by question to determine the measures of central tendency and the variability of the responses. This was the first step in determining “whether the variables can be used for additional statistical analysis” (Nardi, 2006, p. 128). Using descriptive statistics to provide information “about each variable in a study is another way to find out what you have and to understand more about the distribution of the variables in a sample” (Nardi, 2006, p. 133).

The majority of the survey questions were analyzed using descriptive statistics with further analysis of some survey questions being done with a chi-square analysis and Spearman's rho to explore the relationship between variables.

There were three open-ended survey questions that were analyzed using both quantitative and qualitative measures.

- Q16: Provide any additional information you feel is relevant about the literacy skills you learned during your university/college teacher preparation program.
- Q26: If you teach reading skills to your students with FMD, are there activities in which students use the words they are learning/have already learned? If yes, please describe.
- Q28: Which reading/literacy skills should have the highest priority as students with FMD become adults and make the transition from a school setting to the adult world?

The three open-ended survey questions (i.e., Questions 16, 26, and 28) were each entered into a separate Excel software spreadsheet. The responses for the question were

entered, one response to a line. I did an initial analysis of these data to evaluate the responses and to begin the process of developing a set of initial codes for each question and another faculty member (i.e., a professor of economics at the University of Toyko) did the same. He collaborated with me in the coding process and the development of the codes. We each separately examined the open-ended questions and responses and then met several times via a phone conference and a shared Dropbox to view the responses and discuss the codes. We discussed the teacher responses and how they could best be analyzed and presented. We determined the codes for each question, and then I did an initial coding of the responses. Question 16 had 59 responses and the code descriptions are located in Appendix H. There were 88 responses for Question 26 and code descriptions for this question can be found in Appendix I. A total of 107 teachers responded to Question 28 and the codes are presented in Appendix J. Another conference was held to review the initial coding and discuss whether additional codes were needed. A determination was made that saturation had been reached when the codes covered the teacher responses well so no other codes were added. At this time, the collaborating professor randomly selected and coded 30% of the responses for each of the three questions for reliability purposes, after which we conferenced again to review the reliability data and determine the strength of the coding results. Reliability was based on designating the same codes for the responses.

Quantitative data presented percentages of teacher responses according the codes for each question. Qualitative data were used to help create a context for respondents' answers and develop an understanding of their perspective, which could then aid in interpreting teacher responses (Glesne, 2011). A qualitative analysis of the open-ended

survey questions was completed as part of the research analysis to help discern themes present in the responses.

Mixed-methods is an apt selection for collecting data for these participants and these particular research questions. There are many layers involved in exploring the experiences of humans and their beliefs and practices arising from those experiences. Using the various methods of collecting the data as well as the different analytical approaches helped provide answers to the research questions.

Chapter Four

Results

This chapter will present the results of the survey research data for the purpose of answering the three research questions. The teachers who participated in the study will be described along with the research questions, methods used for data analysis, and the results.

Survey

Sample

A total of 177 responses to the survey were submitted. It was not possible to determine the number of MSID teachers in the state of Kentucky and to therefore calculate a response rate. The interest exhibited by the DOSE in sending the survey out to the MSID teachers ranged widely. Some DOSE responded immediately and sent an e-mail to the teachers, with a copy to me, encouraging the teachers to participate. Therefore, in some school districts the number of teachers (e.g., Adair County = 4 teachers, Anchorage Independent = 1 teacher, Anderson County = 3 teachers, Bardstown Independent = 4 teachers, Bath County = 4 teachers, Beechwood Independent = 1 teacher, Bourbon County = 2 teachers, Carlisle County = 1 teacher, Danville Independent = 3 teachers, Elizabethtown Independent = 4 teachers, Fayette County = 45 teachers, Grayson County = 7 teachers, Lyon County = 1 teacher, Marion County = 3 teachers, Rockcastle County = 3 teachers, Russell Independent = 4 teachers, Somerset Independent = 3 teachers) to whom the e-mail invitation was sent was known although it cannot be said with complete certainty that each recipient was a teacher of students with MSID. Some DOSE did not acknowledge the receipt of the first or second e-mail or the

subsequent voice-mail message so it is unknown whether the survey invitations were sent to the teachers in that district.

Specific efforts were made to increase the response rate. For both the DOSE and the teachers, the survey was described clearly in terms of its purpose. In the e-mail to the teachers, inclusive language (e.g., we, our) was used and survey participation was presented as a way to give classroom teachers a greater voice in discussing the issues surrounding literacy instruction with students with MSID. I identified myself as both a former classroom teacher and a graduate/doctoral student who was on her way back to being a classroom teacher. The information was intentionally presented in this manner in an effort to establish a connection with the potential participants. I also tried to make clear the positive link between teacher input and research through the opportunity to participate in this survey. Too often classroom teachers are simply told what to do without ever being asked what they know, think, or believe. A direct link to the survey was provided in the teacher e-mail, which allowed easy access to the survey. The teachers were not required to complete each survey question to progress through the survey and they also had the option to scroll back and forth and change answers, if they so desired. The median time to complete the survey was 10 minutes and 37 seconds, which suggests that the survey was likely not burdensome for the teachers. Information in the e-mail inviting the teachers to participate can be found in Appendix F.

Quality of the Data

Data quality was supported by the decision to use the SurveyGizmo software. Data entry of individual participant responses was not a researcher task. Instead, the software recorded the responses, which could then be downloaded into an Excel file and

analyzed. The threat of human error was lessened because the data were not entered by hand.

Respondent Characteristics

The survey participants were 157 teachers of at least one student with MSID in the state of Kentucky. Of the 177 surveys completed, 157 met the criterion for participating. For teachers to participate in the survey it was required that they be instructors of at least one student with MSID. For a survey to be considered valid and therefore acceptable to be used in the analysis of data, a response of MSID had to be included in Question 1 and at least one student with MSID indicated in Question 3. The student with MSID could be someone who was served directly in the teacher's classroom (resource or self-contained) or a student who was receiving educational services in the general education setting and on the special education teacher's caseload. Survey responses that did not include MSID as one of the responses to Question 1 or Question 3 were not included in the data analysis. Based on these criteria, 20 surveys were excluded, resulting 157 surveys being used for the data analysis.

Survey Question 1 directed teachers: "For the students in your classroom, or on your caseload, check all educational labels that describe your students and their primary disability." After the 100% of teachers who selected MSID as a disability category of students taught, the next largest disability categories listed by the teachers in response to Survey Question 1 were students with autism (86.0%), multiple disabilities (68.8%), mild mental disability (37.6%) and students with speech or language impairment (36.3%). Table 4.1 presents all of the disability categories and percentages for Survey Question 1 and gives an overview of the students taught by the survey participants.

Table 4.1, Disability Category of Students

Students' Disability Categories	Percentage	Number of Teachers
Functional Mental Disability	100.0	157
Autism	86.0	135
Multiple Disabilities	68.8	108
Mild Mental Disability	37.6	59
Speech or Language Impairment	36.3	57
Other Health Impairment	28.7	45
Developmental Delay	19.8	31
Orthopedic Impairment	19.8	31
Visual Impairment Including Blindness	15.3	24
Emotional and Behavioral Disorders	12.1	19
Traumatic Brain Injury	10.2	16
Deafness or Hearing Impairment	7.6	12
Specific Learning Disability	5.7	9
Deaf-Blindness	1.3	2

Survey Questions 2 – 13 and Questions 30 and 31 provided information about the teachers and their classrooms and help provide a more nuanced picture of those who chose to participate in the survey experience. Question 2 asked teachers about the total number of students in their classroom or on their caseload while Survey Question 3

inquired more specifically about the number of students with MSID in the classroom or on their caseload. The average number of total students in the classroom/caseload was 8.6 and for students with MSID, the average was 4.9 per classroom/caseload.

Survey Question 4 asked about the school size of the survey respondents. The largest percentage of participants (34.4%) taught in a school with a student population of 251-500 while the second largest percentage of teachers (28.7%) were serving in schools with 501-750 pupils. Table 4.2 presents the school population categories and percentages listed for Survey Question 4.

Table 4.2, School Size

School Population Categories	Percentage	Number of Teachers
100 or less	1.9	3
101 to 250	6.4	10
251-500	34.6	54
501-750	28.7	45
750-1000	11.5	18
1001-1250	8.3	13
1251-1500	3.2	5
1501-1750	2.6	4
1751-2000	0.7	1
Greater than 2000	2.6	4
Total Responses		157

Teachers completing the survey taught across all the age levels presented as choices in the survey as illustrated by Survey Question 5. Elementary school teachers (45.9%, n = 72) comprised the highest percentage of respondents, followed by teachers at the high school (38.9%, n = 61) and middle school (31.2%, n = 49). Two teachers taught at the preschool level (1.3%, n = 2) and one teacher at the university/college level (0.6%, n = 1). The preschool and university/college categories were included to make sure any survey participants providing services to students with MSID in Early Start Programs or postsecondary settings had an appropriate category choice.

In Question 6, teachers described the location of their schools according the categories of Mostly Rural (55.5%), Mostly Urban (19.4%), and Mostly Suburban (25.2%) while Question 7 probed the types of classrooms in which teachers delivered instruction. The responses for Question 7 allowed teachers to select more than one choice if applicable. For example, a teacher may provide instruction in both a self-contained classroom and in a homebound setting. The categories with the highest percentages were self-contained classrooms (73.3%, n = 115) and resource classrooms (45.6%, n = 70). Teaching in a general education setting along with a general education teacher was selected by 28 teachers (17.8%) and homebound instruction was a choice of 13 teachers (8.3%). None of the survey participants selected an institution as their instructional setting but one person (0.6%) indicated that they taught in a hospital setting and two teachers (1.3%) said they provided instruction in a segregated school.

Information about the numbers of years of teaching was solicited through Survey Question 8 and the categories with the highest percentages were 1-5 years (25.3%, n = 39), 6-10 years (28.6%, n = 44), and 11-15 years (19.5%, n = 30), which account for

73.4% of the teachers responding. All teacher responses by category for Question 8 are presented in Table 4.3.

Table 4.3, Years of Teaching

Years of Teaching	Percentage	Number of Teachers
1-5	25.3	39
6-10	28.6	44
11-15	19.5	30
16-20	10.4	16
21-25	11.7	18
26-30	2.6	4
31-35	1.3	2
More than 35	0.7	1
Total Responses		154

Survey Question 9 (number of years since finishing a bachelor’s degree) showed that for 25.3% teachers it had been 6-10 years since they had completed their undergraduate degree. The teachers who had completed their bachelor's degree in the previous 1-5 years (16.9%) had the next highest percentage of participation in the research study, followed by those in the category of 11-15 years (16.2%). These top three categories account for 58.4% of the survey respondents.

The discrepancy between the percentages in Question 8 and Question 9 can be accounted for by not beginning a teaching career immediately after graduation or by

taking time off during their teaching career. There are many possible reasons for the differences. A teacher might have graduated 10 years ago but only taught for 4 years because they worked elsewhere before being a classroom teacher. Entering the teaching profession through an alternate certification also could contribute to the discrepancy. Or, a teacher could have opted to stay home with young children for several years before returning to the work force. However, the majority (61.8%) of teachers report the same number of years teaching and the same number of years since graduating.

Currently held teaching certificates were addressed in Survey Question 10 by asking the participants to check boxes for all of their certificates. The vast majority of the teachers hold a certificate in MSID (90.5%). This is followed by certificates in learning and behavior disorders (LBD) (49.7%) and elementary (primary-grade 5) (49.7%). The other areas of general education certification held by survey responders were middle school (grades 5-9) at 16.6% and secondary school (grades 8-12) at 10.2%. Other special education related areas received only a few responses: interdisciplinary early childhood education (4.5%), communication disorders (0.6%), and visually impaired (0.6%). No teachers completing the survey selected the certification areas of hearing impaired or hearing impaired with sign proficiency. However, 14.0% of the teachers selected an “other” category, which may indicate teaching certificates in categories such as music, art, science, etc., that were not represented by the special education and general education areas listed as choices in the survey question.

In Question 11, the vast majority of teachers (95.5%) said they were not currently enrolled in an alternate certification program in MSID and 89.5% of the teachers indicated in Question 12 that they were not, at the present time, students in a master’s

degree program in MSID. Question 13 asked teachers to report their highest teaching rank obtain: 36.9% reported having a Rank 1 ("30 credit hours in addition to Rank 2 or National Board Certification"), 49.0% reported having a Rank 2 ("Master's degree or Fifth-Year program ") and 14.0% reported having a Rank 3 ("Bachelor's degree").

Rounding out the information solicited about the survey participants were Questions 30 and 31 on gender and ethnicity. Most of the teachers who responded to this survey were women (91.6%). This statistic is greater than the 76% female teachers reported nationwide for 2011-2012 (U.S. Department of Education, 2016). All of the data for Question 30, gender/gender identify are presented in Table 4.4.

Table 4.4, Gender and Gender Identity

Gender/Gender Identity	Percentage	Number of Teachers
Woman	91.6	142
Man	7.1	11
Decline to Respond	1.3	2
Complicated	0.0	0
Total Responses		155

Question 31 asked participants about their ethnicity. Most of the teachers selected European American/White (92.4%), which corresponds to the racial make-up of the state of Kentucky. As noted in Suburban Stats for the years 2015-2016, the demographics for Kentucky by race were 87.0% White. A percentage (5.7%) of the survey respondents chose not to respond so it is unknown how these data may have impacted the percentages

in the other categories. All ethnic information submitted by the survey participants can be found in Table 4.5.

Table 4.5, Ethnicity

Ethnicity	Percentage	Number of Teachers
European American/White	92.4	145
Decline to Respond	5.7	9
African American/Black	0.6	1
Asian/Pacific Islander	0.6	1
Native American/Alaska Native	0.6	1
Hispanic/Latino	0.0	0
Other/Multi-Racial	0.0	0

In summarizing the demographic and classroom information, for the teachers who participated in the survey, 63.3% taught in schools serving 251-750 students, the greatest concentration, (45.9%) were elementary teachers, most were from rural areas of the state (55.5%), and 73.3% taught in self-contained classrooms. Respondents tended to have fewer years of teaching experience with the majority 73.4% having taught for 15 years or less (25.3% had 1-5 years experience, 28.6% had 6-10 years experience, and 19.5% had 11-15 years experience). Most of survey participants (58.4%) completed a bachelor's degree within the past 1-15 years, held a teaching certification in MSID (90.5%), and were not current students in an alternate certification program (95.5%) or a master's degree program (89.5%) in MSID.

Research Question One

For this dissertation, Research Question One examines what special education teachers of students with MSID in the state of Kentucky report as having learned in their university/college teacher preparation programs about literacy. Survey Questions 14, 15, 16, and 29 were designed to help answer this research question.

Question 14 asked teachers to indicate whether their university or college programs provided an emphasis on teaching literacy skills to students with MSID. Combining the Likert scale agreement response categories (strongly agree, 14.0%, agree, 32.5%, and slightly agree, 22.9%) results in 69.4% of respondents who agreed in varying amounts with this statement about an emphasis being placed on teaching literacy skills to students with MSID.

Perhaps equally noteworthy is that 30.6% (disagree, 22.3% and strongly disagree, 8.3%) of survey participants did not find this to be true and reported that an emphasis on teaching literacy skills to students with MSID was not provided in their university/college programs.

There were no statistically significant differences in the Likert responses by categorical years as a classroom teacher ($\chi^2(28) = 27.6, p > 0.05$), categorical years since finishing bachelor's degree ($\chi^2(28) = 26.5, p > 0.05$), urban/rural/suburban ($\chi^2(8) = 7.4, p > 0.05$), or highest rank obtained ($\chi^2(28) = 1.8, p > 0.05$). This suggests similar patterns of agreement and disagreement for Question 14 across the different subgroups of teachers.

Survey Question 15 asked teachers to check all of the categories in which they learned to teach the listed literacy skills while in their university/college programs. Word

identification (e.g., sight word identification), comprehension (understanding oral and print vocabulary), and vocabulary (e.g., word meanings and concepts, expressive and receptive language skills) were the skills in which teachers reported the highest percentages of learning. Phonemic awareness (identifying and using the sounds in spoken words), phonics (reading instruction that emphasizes written letter-sound correspondence), methods for developing fluency (e.g., guided oral reading and reading error rate, strategies that focus on speed and accuracy), and written expression (e.g., writing words and sentences) were identified as having been learned to a lesser degree. A significant number of the survey participants (24.8%) said these literacy skills were not addressed in their teacher preparation programs. In Table 4.6, the responses by category for Question 15 are presented.

Table 4.6, Percentage of Teachers Who Reported Learning These Skills in Their Pre-Service Program

Literacy Skills	Percentage	Number of Teachers
Word identification	58.0	91
Comprehension	42.0	66
Vocabulary	41.4	65
Phonemic Awareness	30.0	47
Phonics	28.7	45
Fluency	27.4	43
Written Expression	21.7	34
Other	5.7	9

Table 4.6, Percentage of Teachers Who Reported Learning These Skills in Their Pre-Service Program

An “other” response option for Survey Question 15 allowed the teachers to write comments, providing more information about the literacy skills they learned to teach in their university/college teacher preparation programs. Nine participants wrote comments, including information such as learning about literacy skills in courses for their certification in general education but not learning about these skills in their special education courses. For some participants, the special education courses instead had a focus on learning how to prioritize which skills to teach and learning behavioral strategies. Comments also described learning to modify general education materials, the use of the *Early Literacy Skills Builder* (ELSB), (Browder, Gibbs, Ahlgrim-Delzell, Courtade, & Lee, 2007) and approaches to literacy instruction such as using pictures with words and a whole language approach.

In Survey Question 16, participants were given an option of including any other information they felt was relevant about the literacy skills they learned during their university/college teacher preparation programs. A total of 59 teachers responded to this question with the length of the responses varying greatly from a few words to a paragraph. Some responses were negative (e.g., “Little instruction on actual reading skills,” “I didn’t learn how to address reading with FMD students,” “Very minimum,” “I honestly think that colleges/university instruction does not even begin to teach literacy skills” “I was told that it was important to teach literacy skills to students with FMD but was never instructed in specific strategies”).

Some responses were comments that made a connection between the instruction received and literacy skills (e.g., "Data collection was of a high priority throughout my college instruction. However, specific literacy skills were never taught," "Instruction was based more toward what each of these literacy skills are and how the students should demonstrate them, not how to actually teach these skills to students with disabilities. Instructional strategies were not provided at the college level in this area," "We were taught teaching strategies such as constant time delay and system of least prompts, not specifically on how to teach literacy skills").

In answering this question, many teachers explained where or how they had learned about literacy and how to teach literacy skills. This knowledge originated in elementary education reading courses, while completing a certification for general education or in a program in communication disorders, working with other teachers, participating in the Kentucky Reading Project, being a Reading Recovery teacher, in practicum courses and student teaching, from colleague teachers, and through their own investigations. There were two themes that appeared to emerge in the teachers' responses: (a) responses that discussed the various sources of their literacy knowledge, whether through personal or professional interactions, and (b) comments that noted a lack of focus on literacy in their teacher preparation programs.

To provide a more systematic analysis of Question 16, four codes were developed to categorize the written responses: (a) skills taught (response indicated literacy skills were taught in MSID courses), (b) skills not taught (response indicated that literacy skills were not taught in any coursework for students with MSID), (c) related content (response contained information about instruction received that could be related to or used in

support of teaching literacy skills) and (d) other sources (response discussed other sources for knowledge about literacy instruction). Reliability data for Question 16 were 94% accuracy across the two reliability coders selecting the same codes for 30% of the teacher responses. A complete description of the responses by category codes is located in Appendix H.

Table 4.7 displays the percentage of teachers whose written response can be categorized in each code. Only 1.7% reported that they learned their literacy skills in an MSID course and 55.9% reported that the literacy skills were not taught in any MSID course. For 28.8% of the teachers, there were comments about receiving instruction that was related to teaching literacy skills such as teaching strategies or data collection procedures that could be used to teach literacy skills. Some teachers (27.1%) also wrote about receiving literacy instruction from other sources such as elementary education courses, obtaining other teaching certificates, professional development opportunities, and learning from other teachers while in practicum or student teaching or once entering the teaching profession.

Table 4.7, Literacy Skills Taught Specifically in MSID Coursework

Literacy Skills	Percentage	Number of Responses
Skills taught	1.7%	1
Skills not taught	55.9%	33
Related Content	28.8%	17
Other sources	27.1%	16
Total Teachers		59

Teachers also provided information about the sources of literacy knowledge through Survey Question 29, attributing their knowledge to widely ranging and multiple sources. The category with the highest percentage of responses (63.1%) was professional development and in-service hours. This suggests, that for these teachers, professional development hours were an accepted and teacher-valued venue for reaching classroom teachers with new content information (Berry, Petrin, Gravelle, & Farmer, 2012). University graduate courses received more responses (56.7%) than did undergraduate courses (44.6%). Knowledge gleaned from other teachers (50.3%) and from workshops (48.4%) rounded out the sources deemed to provide the most knowledge. Interactions with families (24.2%) and special education journals (21.9%) were grouped closely together in the next highest level of acknowledgement, followed by unofficial mentors (14.7%), the Council for Exceptional Children website (14.7%) and the Kentucky Teacher Internship Program (13.4%). An official mentor (10.8%) and general education journals (3.8%) were the lowest categories. It is worth noting that these teachers did not see K-TIP as a valued resource for literacy skills. It was also noteworthy, given the widely held beliefs in the value of mentoring (Israel, Kamman, McCray, & Sindelar, 2014), that mentoring ranked so low, with official mentors receiving a lower percentage than unofficial mentors. However, providing appropriate mentors to teachers of students with MSID can be problematic, particularly for those teaching in rural areas (Abell, Collins, Kleinert, & Pennington, 2014; Washburn-Moses, 2010). Table 4.8 presents the responses to Survey Question 29.

Table 4.8, Sources of Knowledge About Literacy Skills

Sources of Knowledge	Percentage	Number
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		of Teachers
Professional Development/ In-Service Hours	63.1	99
University Graduate Courses	56.7	89
Other Teachers	50.3	79
Workshops	48.4	76
University Undergraduate Courses	44.6	70
Interactions with Families	24.2	38
Special Education Journals	21.9	47
Unofficial Mentor	14.7	23
Council for Exceptional Children (CEC) Website	14.7	23
Kentucky Teacher Internship Program	13.4	21
Official Mentor	10.8	17
General Education Journals	3.8	6
Other	13.4	21

Table 4.8, Sources of Knowledge About Literacy Skills

In summary, Research Question 1 asked what special education teachers of students with MSID in the state of Kentucky report as having learned about literacy in their university/college teacher preparation programs. Most of the teachers who participated in this survey reported that their teacher preparation programs placed an

emphasis on teaching literacy skills to students with MSID while 30.6% of teachers stated this was not so. A similar delineation occurred among the responding teachers with regard to the specific literacy skills learned. Teachers identified literary skills taught to a greater degree as well as those on which they had received less instruction. Again, there were a notable number of teachers (24.8%) who said instruction on these literacy skills was not a part of their teacher preparation programs. An analysis of teacher comments provided a range of responses.

Research Question Two

The second research question, "What do special education teachers in Kentucky believe about their students with MSID and literacy?" can be answered by survey questions 17 through 23. Questions 17 - 22 are Likert responses questions while Question 23 allowed participants to select all of the choices for the literacy skill areas they believe students with MSID can learn.

Question 17 states, "I think students with FMD can learn phonemic awareness skills. For example, learn to identify spoken words beginning with the same sound, identify the sounds at the beginning and ending of spoken words, and state the individual sounds in a spoken word. Check the answer that best applies." The Likert responses to Question 17 are displayed in Table 4.9.

Table 4.9, Learning Phonemic Awareness Skills

Likert Responses	Percentage	Number of Teachers
Strongly Agree	29.5	46
Agree	41.0	64

Slightly Agree	25.6	40
Undecided	0.0	0
Slightly Disagree	0.0	0
Disagree	3.2	5
Strongly Disagree	0.7	1
Total Responses		156

Table 4.9, Learning Phonemic Awareness Skills

Interestingly, the majority of teachers (70.5%) either strongly agree or agree that their students can learn phonemic awareness skills. While this was an area only 30.0% of these teachers received instruction in while in university/college coursework, a much greater number now believe students with MSID can learn these skills.

Another interesting finding is there was no statistically significant differences in the Likert response distribution by whether or not the teachers reported learning how to teach phonemic awareness in university ($\chi^2(4) = 5.1, p > 0.05$). In addition, to test for differences in the Likert response distribution by teacher characteristics, chi-square tests were performed by urban/rural/suburban ($\chi^2(8) = 15.9, p < 0.05$), categorical years as a classroom teacher ($\chi^2(28) = 63.6, p < 0.05$), categorical years since finished bachelor's degree ($\chi^2(28) = 26.2, p > 0.05$) and rank obtained ($\chi^2(8) = 10.7, p > 0.05$).

The chi-square test only reports when there are statistically significant differences between the distribution so to understand how the response distribution shifted, I visually inspected the response probabilities in each area where the chi-square test reported a statistically significant difference. In the urban/rural/suburban category, teachers from

urban and especially suburban were much more likely to strongly agree or agree that students with MSID could learn phonemic awareness skills. For years as a classroom teacher, more beginning level teachers (1-5 years or 6-10 years of experience) were much more likely to strongly agree or agree that students with MSID could learn phonemic awareness skills.

Question 18 refers to phonics and the question was: "I think students with FMD can learn phonics. For example, learn the relationship between the written letter and the letter sound in order to recognize familiar words and decode unfamiliar words. Check the answer that best applies." The Likert responses are given in Table 4.10.

Table 4.10, Learning Phonics

Likert Responses	Percentage	Number of Teachers
Strongly Agree	28.3	43
Agree	39.5	60
Slightly Agree	28.3	43
Undecided	0.0	0
Slightly Disagree	0.0	0
Disagree	2.6	4
Strongly Disagree	1.3	2
Total Responses		152

Again, a majority of teachers (67.8%) either strongly agree or agree that students with MSID can learn phonics, with only 3.9% disagreeing or strongly disagreeing. This is

again a significant percentage of teachers (67.8%) who now believe students with MSID can learn a skill, in this case, phonics, even though a much smaller percentage of teachers (28.7%) received instruction on teaching phonics to students with MSID in university/college teacher preparation programs. Teachers who report having received instruction on teaching phonics at university were much more likely to strongly agree or agree that students can learn phonics skills ($\chi^2(4) = 8.6, p < 0.10$). However, given the large gap, at some point post university/college, knowledge about how to teach phonics to students with MSID was developed or expanded, which may have then impacted beliefs about students' abilities to learn phonics. In addition, the correlation of the Likert responses for Q17 (learn phonemic awareness skills) and Q18 (learn phonics) is fairly high (Spearman's rho = 0.75). This suggests that these teachers have similar beliefs about students' ability to learn both phonemic awareness and phonics skills.

To test for differences in the response distribution by teacher characteristics, chi-square tests were performed by urban/rural/suburban ($\chi^2(8) = 28.0, p < 0.05$), categorical years as a classroom teachers ($\chi^2(28) = 72.1, p < 0.05$), categorical years since finished bachelor's degree ($\chi^2(28) = 38.0, p < 0.10$) and highest rank obtained ($\chi^2(8) = 16.9, p < 0.05$) with different and statistically different responses patterns found for each subgroup of teachers. Inspecting in the response distribution separately by group, in general teachers were more likely to strongly agree or agree about whether students can learn phonics if they were from urban/suburban areas, had less teaching experience (1-5 years or 6-10 years experience), and had finished their bachelor's degree more recently. The pattern by rank was the most complicated. Rank 3 teachers almost all reported strongly agree (52.4%) or agree (42.9%) whereas Rank 1 teachers reported less that they strongly

agree (19.3%). Rank 2 teachers also were less likely to strongly agree (31.0%). However, Rank 1 teachers were more likely to report agree (47.7%) than Rank 2 teachers (29.7%).

Question 19 refers to fluency and states: "I think students with FMD can learn to read fluently. For example, learn to read quickly, with few mistakes, and read with expression. Check the answer that best applies." The teachers' Likert responses are displayed in Table 4.11.

Table 4.11, Learning Fluency Skills

Likert Responses	Percentage	Number of Teachers
Strongly Agree	18.6	29
Agree	35.9	56
Slightly Agree	37.8	59
Undecided	0.0	0
Slightly Disagree	0.0	0
Disagree	3.8	6
Strongly Disagree	3.8	6
Total Responses		156

On Question 19, one notable difference from Question 17 (learn phonemic awareness skills) and Question 18 (learn phonics) is that the percentage of teachers who only slightly agree (37.8%) increased by approximately 10 percentage points. In addition, the percentage of teachers who either disagree (3.8%) or strongly disagree (3.8%) was also substantially higher. It seems that teachers were more pessimistic about the ability of

their students with MSID to learn fluency skills. Also, a smaller percentage of teachers (27.4%) received instruction at university/college on teaching fluency to students with MSID.

The question about whether students can learn to read fluently had the weakest relationship with any teacher characteristics. Whether teachers received instruction at university had no relationship with their Likert responses ($\chi^2(4) = 0.7, p > 0.05$) and also by teacher characteristics, there were no statistically significant differences in the Likert responses to fluency by urban/suburban/rural ($\chi^2(8) = 3.8, p > 0.05$), years as a classroom teacher ($\chi^2(28) = 27.0, p > 0.05$), years since finished bachelor's degree ($\chi^2(28) = 34.4, p > 0.05$), or highest rank ($\chi^2(8) = 12.7, p > 0.05$). There also was much less correlation between Question 19 (read fluently) and Question 17 (learn phonemic awareness skills) (Spearman's rho 0.44) and between Question 19 and Question 18 (learn phonics) (Spearman's rho 0.40). This suggests much less uniformity in teachers' beliefs related to phonics and phonemic awareness as compared to fluency.

Question 20 addresses vocabulary skills and states: "I think students with FMD can develop vocabulary skills. For example, learn to use words when speaking, comprehend words spoken to them, understand word concepts, and read written words. Check the answer that best applies." The Likert responses compiled for the participating teachers are presented in Table 4.12.

Table 4.12, Learning Vocabulary Skills

Likert Responses	Percentage	Number of Teachers
Strongly Agree	30.3	47

Agree	47.7	74
Slightly Agree	20.0	31
Undecided	0.0	0
Slightly Disagree	0.0	0
Disagree	1.3	2
Strongly Disagree	0.7	1
Total Responses		155

Table 4.12, Learning Vocabulary Skills

Again, a majority of teachers' responses are categorized as strongly agree or agree (78.0%) indicating a belief that students with MSID can learn vocabulary skills. Compared to fluency skills, a smaller percentage of teachers disagree or strongly disagree (2.0%). Fewer teachers reported having received instruction at college/university on teaching vocabulary skills to students with MSID (41.4%). This percentage is higher than the percentage reporting instruction in phonemic awareness (30.0%), phonics (28.7%), or fluency (27.4%). However, whether a teacher reports having received vocabulary instruction at university has no statistically significant relationship to their Likert response ($\chi^2(4) = 1.1, p > 0.05$) about vocabulary skills. By teacher characteristics, there was only a statistically significant difference in the Likert response to vocabulary by urban/suburban/rural ($\chi^2(8) = 28.6, p < 0.05$). Inspection of the Likert responses when grouped by rural/suburban/urban revealed that suburban and urban teachers were much more likely to strongly agree that students could develop vocabulary skills. The other subgroups were not statistically significant: Years as a classroom teacher ($\chi^2(28) = 34.2,$

$p > 0.05$), years since finished bachelor's degree ($\chi^2(28) = 34.4, p > 0.05$) or highest rank ($\chi^2(8) = 11.8, p > 0.05$). Likert responses about vocabulary skills also were not strongly correlated with Likert responses for phonemic awareness (Spearman's rho 0.59), phonics (Spearman's rho 0.55), or fluency (Spearman's rho 0.45).

Question 21 concerns sight words and states: "I think students with FMD can develop sight word identification skills. For example, learn to read written words through visual recognition. Check the answer that best applies." The Likert responses are displayed in Table 4.13.

Table 4.13, Learning Sight Word Skills

Likert Responses	Percentage	Number of Teachers
Strongly Agree	42.3	66
Agree	44.2	69
Slightly Agree	12.2	19
Undecided	0.0	0
Slightly Disagree	0.0	0
Disagree	0.7	1
Strongly Disagree	0.7	1
Total Responses		156

Teachers were more likely to strongly agree or agree (86.5%) that students with MSID can learn sight word skills. Paralleling this increase was the increase in the percentage of teachers having received instruction in teaching sight words at university

(58.0%). In addition, there was a statistically significant difference in the distribution of the Likert response ($\chi^2(4) = 15.6, p < 0.05$) with teachers who reported that their universities taught sight word identification much more likely to report they strongly agree or agree that students with MSID can learn sight word identification skills. By teacher characteristics, there also were statistically significant differences in the Likert responses by urban/suburban/rural ($\chi^2(8) = 25.5, p < 0.05$) and by years as a classroom teacher ($\chi^2(28) = 44.8, p < 0.05$). Urban/suburban teachers and those with fewer years teaching experience were more likely to strongly agree or agree. There were no statistically significant differences by years since finishing a bachelor's degree ($\chi^2(28) = 33.0, p > 0.05$) or by highest rank ($\chi^2(8) = 10.2, p > 0.05$). Similar to vocabulary skills, Likert responses about sight words were only moderately correlated with Likert responses for phonemic awareness (Spearman's rho 0.53), phonics (Spearman's rho 0.50), fluency (Spearman's rho 0.33), and vocabulary (Spearman's rho 0.65).

Question 22 is about comprehension skills and states: "I think students with FMD can develop comprehension skills. For example, understand and acquire meaning from oral and written words and from text. Check the answer that best applies." The Likert responses are displayed in Table 4.14.

Table 4.14, Learning Comprehension Skills

Likert Responses	Percentage	Number of Teachers
Strongly Agree	25.0	39
Agree	55.1	86
Slightly Agree	18.0	28

Undecided	0.0	0
Slightly Disagree	0.0	0
Disagree	1.3	2
Strongly Disagree	0.7	1
Total Responses		156

Table 4.14, Learning Comprehension Skills

Most teachers either strongly agree or agree (80.1%) and very few disagree or strongly disagree that students can learn comprehension skills (2.0%). Again, however, there is a disconnect with their university education: Only 42.0% reported that their university/college taught comprehension skills and there was no statistically significant difference in the Likert distribution by whether the teacher's university taught comprehension skills ($\chi^2(4) = 4.5, p > 0.05$). By teacher characteristics, however, there were statistically significant differences in the Likert responses to comprehension skills by urban/suburban/rural ($\chi^2(8) = 16.4, p < 0.05$) and by highest rank ($\chi^2(8) = 13.5, p < 0.10$) but not by years as a classroom teacher ($\chi^2(28) = 29.9, p > 0.05$) or by years since a bachelor's degree ($\chi^2(28) = 35.6, p > 0.05$). Compared to rural teachers, urban and suburban teachers were more likely to strongly agree or agree that students could learn comprehension skills, and, compared to Rank 1 teachers, Rank 2 and Rank 3 teachers also were more likely to strongly agree or agree that students could learn comprehension skills. Likert responses for comprehension also were not so strongly related to the other Likert responses with Spearman's rho ranging between 0.41 and 0.56 depending on the measure.

Question 23 probed teachers' beliefs about comprehension skills more deeply and asked the teachers to check any in the following list they believed students with MSID could learn. Table 4.15 displays the percentage chosen in each category (the percentages do not sum to 100% because the teachers could choose more than one response).

Table 4.15, Learning Different Types of Comprehension Skills

Comprehension Skills	Percentage	Number of Teachers
Wh Questions	89.8	141
Main Idea	84.1	132
Meaning of Individual Words	82.8	131
Sequencing	77.1	121
Passive Voice Constructions	59.9	94
Inferences	42.0	66
Story Context	38.2	60
Other	5.7	9
Do Not Believe	1.3	3

The three most common responses were that students can develop comprehension skills to "Answer who, what, where, when, and why comprehension questions" (Wh questions), "Identify the main idea, using sentences and pictures" (Main idea), and "Learn the meaning of individual words" (Meaning of individual words). More than 80% of teachers believed that students can develop those three comprehension skills. Slightly below the top three is whether students can "Identify the correct sequence of activities

and events in a story" (Sequencing) with 77% of teachers reporting that students can identify the sequence of events in a story. Fewer teachers believe that students can learn to "Simplify passive voice constructions" (59.9%), "Make inferences (a judgment or conclusion) about events in a story" (42.0%), or "Use the context of a story to understand difficult vocabulary words" (38.2%). The analysis shows that the majority of teachers view students as capable of learning comprehension skills, especially related to learning words, the main idea, questions about the story, and the sequence of the story. However, teachers seemed less optimistic about higher order comprehension skills. Teachers selecting "Other" often expressed that it depended on the individual student with a lot of variation within students categorized as MSID. The written responses included statements such as: "All of these depend on the student," "It depends on the student and his/her ability," "It depends on the child," and "It is all dependent on the level of severity of the student." One interpretation is that some of the variation about whether, for example, students can learn the meaning of individual words may depend on the specific students currently in their classroom or the students with whom most of their teaching experiences have been based. If a majority of their teaching experiences have been with students with more significant disabilities, teachers may be less likely to express a belief in students' abilities to learn.

Research Question Two, "What do special education teachers in Kentucky believe about their students with MSID and literacy?" can be summarized by saying that most special education teachers expressed agreement that their students can learn across a range of literacy skills. One interesting finding from the survey is the disconnect between what teachers were taught at university and what teachers actually believe about their

students' capabilities. Somehow teachers were able to bridge this gap (perhaps through practice, through graduate school, or through professional development) and most teachers have different beliefs about their students' capabilities than what or the degree to which they initially learned about literacy instructional practices for students with MSID. Although very few of the teachers reported "disagree" or "strongly disagree" with any of the literacy belief questions, there was a tendency for teachers who did receive instruction in a particular area to report a higher level of agreement that their students could learn in that area. This suggests that university/college instruction does carry over somewhat to beliefs. In addition, there were some differences in belief by teacher characteristics that showed up in statistical analysis with less experienced teachers and suburban/urban teachers more likely to agree that students can learn various literacy skills. There also were a few differences by whether the university taught the skills (with teachers who received instruction more likely to express a belief in students' ability to learn) and differences by rank (with Rank 1 teachers less optimistic). Finally, many teachers expressed that among students classified as MSID, most had a range of abilities. Teachers felt strongly that some students can acquire skills in a particular area and some students cannot acquire those skills. This introduces another source of variability in the teachers' answers because the teachers were likely basing their responses on direct experience with their own students' abilities. To generalize to students with MSID more broadly may not be possible. This shows up, for example, in the sometimes low correlations across Likert responses for different literacy skills.

Research Question Three

Research Question Three, "In which literacy skill areas (phonemic awareness, phonics, vocabulary, fluency, and comprehension) do teachers of students with MSID in Kentucky report they are providing instruction? can be answered using survey questions 24 through 28. Having ascertained what teachers learned about literacy and what teachers believe about their students' literacy capabilities, Research Question Three moves to ask what teachers actually *do* in their classrooms in terms of literacy instruction.

Question 24 investigates the categories of words taught to students and asks: "If you teach reading skills to your students with FMD, which categories of words do you teach?" Table 4.16 shows the teacher responses about the different categories of words on which they deliver instruction.

Table 4.16, Categories of Words Taught

Categories of Words	Percentage	Number of Teachers
Community, Vocational	78.3	123
Dolch	74.5	117
Recipe, Cooking, Food, Grocery	73.9	116
Personal Interests, Family	72.0	113
Core Content, Academic Area	63.1	99
Movies, Books, Recreation/Leisure	53.5	84
Fry	41.4	65
Other	12.7	20
Do Not Teach	0.0	0

The most common category of words taught has to do with Community/Vocational words. The next highest categories are Dolch words; Recipe/Cooking/Food/Grocery vocabulary; followed by Personal Interests/Family words. Core Content/Academic Area words and the category of Movies, Books, Recreation/Leisure vocabulary came before Fry words. Reassuringly, there were no teachers who indicated they did not teach word identification in their class. Somewhat surprising perhaps is that more than 20% of students were not being taught the highest category choice Community/Vocational words. However, restricting the sample to students who were out of elementary school results in 89.3% of the teachers teaching Community/Vocational words. This suggests that the teachers may be aligning the instruction to the students' age. In addition, a vast majority of the students not receiving Community/Vocational instruction were receiving instruction in at least one of the next four most common choices of instruction (Dolch words; Recipe/Cooking/Food/Grocery words; Personal Interests/Family words; and Core Content/Academic Area words).

Other nuances in the survey came out of the written responses for Question 24 where one teacher wrote: "As a preschool teacher, this doesn't apply to me." In addition, many teachers mentioned the *PCI Reading Program* (2017, PRO-ED), which at the first level of instruction begins as a Dolch, Fry, and functional literacy content-based sight word reading program. Teachers also talked about teaching consonant-vowel-consonant (CVC) words, which if both the *PCI Reading Program* words and CVC words were classified in a category along with the Dolch words and Fry words, would be even higher. One interesting response came from a teacher who stated: "My curriculum used to be functional, but now it has to align with the core standards due alternate K-PREP. . . . I

have no time to teach the functional skills that this population of students need and can benefit from" but that "I try to incorporate functional words as much as possible and try to fit the curriculum to meet the abilities of the individual students."

Question 25 asks teachers: "Are there adaptations or modifications you use to teach reading skills to your students with FMD?" Table 4.17 displays the responses.

Teachers could choose more than one response so they do not sum to 100%.

Table 4.17, Reading Skill Adaptations and Modifications

Comprehension Skills	Percentage	Number of Teachers
Picture Prompts	87.9	138
Picture Supported Texts	87.9	138
Repeated Story Lines	68.2	107
Predictable Sentences	57.9	83
Graphic Organizers	54.1	85
Computer Software	52.9	83
Controlled Vocabulary	42.7	67
Other	10.9	17
Do Not Use	0.0	0

A large majority of teachers reported using Picture Prompts (87.9%) and Picture Supported Texts (87.9%). Repeated Story Lines was the third most reported answer with 68.2% of teachers using this method. A slight majority also reported using Predictable Sentences (57.9%), Graphic Organizers (54.1%), or Computer Software (52.9%) while

only 42.7% reported using Controlled Vocabulary. In the Other category (10.9%) teachers reported a range of activities: "Interactive technology, drill and practice, repeated passages," "flash cards, sorting/matching jigs," and "adapted and interactive books made on power point, newspaper articles," etc. No teachers indicated that they did not use any reading skill adaptations or modifications.

Question 26 was a written response question that asked teachers: "If you teach reading skills to your students with FMD, are there activities in which students use the words they are learning/have already learned?" To analyze this question the following codes were developed: Academic Instruction, Instructional Strategies, Commercial Programs and Materials, Practical Living Instruction, Phases of Learning, Core Content, Settings, Literacy Areas by Name, and Data-Based Instructional Procedures.

The Academic Instruction responses were defined as examples of academic skills (e.g., spelling words, identifying environmental print) while the category of Instructional Strategies included strategies (e.g., repeated story lines, text with pictures) that could be used across different skill areas.

Reliability data for Question 26 were 87% accuracy across the two reliability coders selecting the same codes for 30% of the teacher responses. A complete list of the descriptions of the category codes, the types of teacher responses that are represented by the codes, is presented in Appendix I.

Table 4.18 shows the coded responses to Question 26. The highest response was Academic Instruction with 54.5% of responses receiving this code. Next were Instructional Strategies (36.4%), commercial programs and materials (20.5%), Practical

Living Instruction (14.8%) and Phases of Learning (10.2%). The remaining categories each account for less than 10% of responses.

Table 4.18, Literacy Activities

Literacy Activities	Percentage	Number of Responses
Academic Instruction	54.5%	48
Instructional Strategies	36.4%	32
Commercial Programs and Materials	20.5%	18
Practical Living Instruction	15.9%	14
Phases of Learning	10.2%	9
Core Content	6.8%	6
Settings	6.8%	6
Literacy Areas by Name	6.8%	6
Data-Based Instructional Procedures	1.1%	1
Total Teachers		88

Question 26 responses indicated that students were participating in activities where they were using targeted vocabulary words in academic types of activities. For example, activities involving reading words, sentences, paragraphs, and books or spelling activities, and similar responses were grouped together and were coded as Academic Instruction. General instructional activities such as using flashcards, word games, note-taking, and typing became the category Instructional Strategies. These activities were ones teachers reported with the highest percentages (54.5% for Academic Instruction and

36.4% for Instructional Strategies). Through the coding process we attempted to see if among the combined grouping of these specific responses, if there were ways to differentiate and better present the range of teacher activities. Ultimately, we decided there were differences. Academic Instruction became the responses that focused on what the students did or how the students responded (e.g., reading orally, answering questions) and the Instructional Strategies category contained responses in which the activities themselves were emphasized or non-commercial materials were used (e.g., social stories, journals). Some teachers noted Alternate K-Prep or Core Content activities as a response so this became a separate category as did responses that simply listed or described different settings (e.g., work, home, real-life, specials, electives) and this then became the category Settings.

In responding to Question 26, teachers replied with the names of commercial materials used in activities with their students, which then became the category coded as Commercial Programs and Materials. Some teachers described activities in one of the five literacy areas as a response to this question (i.e., comprehension and fluency). Literacy Areas by Name was a designated area for these teacher responses and because activities in some of the phases of learning (i.e., generalization, maintenance, and fluency) also were responses, Phases of Learning became a category. It was noted in Appendix I that fluency is listed in both of these categories. The Practical Living Instruction code represents responses about cooking, community-based instruction, and recreation-leisure activities, etc. A teacher response that stated "system of least prompts" in answering Question 26 as an activity used for their students reading words was so

unique that it did not fit well with any other answers so it became the category called Data-Based Instructional Procedures.

Question 27 asks teachers: "If you teach reading skills to your students with FMD, how do you teach the skills? Which instructional procedures do you use to teach the words?" Table 4.19 displays the teacher responses. Teachers could choose more than one response so they do not sum to 100%.

Table 4.19, Instructional Procedures for Teaching Literacy Skills

Instructional procedures	Percentage	Number of Teachers
Direct Instruction	86.6	136
Constant Time Delay	58.6	92
Simultaneous Prompting	56.7	89
Error Correction	47.8	75
Progressive Time Delay	24.2	38
Early Literacy Skills Builder	23.6	37
Reading Mastery	21.0	33
Other	14.7	23
Basal Readers	10.2	16
Do Not Use	0.0	0

Many teachers chose *Direct Instruction* (86.6%) as a response. It was interesting that this instructional procedure choice received such a high percentage of responses for students with MSID. While one of the *Direct Instruction* programs, other than *Reading*

Mastery, which was listed, could well be an appropriate procedure for many students, perhaps teachers were thinking of direct instruction more broadly. Less used but still selected by a majority of teachers were Constant Time Delay (58.6%) and Simultaneous Prompting (56.7%). Error Correction was utilized by slightly less than half of teachers (47.8) and the remaining choices were all less than 30%: *Early Literacy Skills Builder* (23.6%), *Reading Mastery* (21.0%) and Basal Readers (10.2%). There were 14.7% teachers who reported using an "Other" option and listed programs such as *Zoophonics*, *Handwriting Without Tears*, *Pathways to Literacy*, *Leveled Literacy Intervention*, *Reading Milestones*, etc. Again, no teachers reported that they did not use any instructional procedures so that it appears from the survey that all students of these teachers were receiving some form of reading instruction using systematic instruction.

In Question 28 teachers were asked: "Which reading/literacy skills should have the highest priority as students with FMD become adults and make the transition from a school setting to the adult world?" This was an open ended question therefore to address the analysis of these responses systemically, the following codes were developed to categorize the written responses: Academic Instruction (e.g., vocabulary words, decoding, reading, calendar), Commercial Programs and Materials (*Edmark Reading Program*, Dolch), Instructional Strategies (e.g., high interest materials), Literacy Areas by Name (i.e., phonemic awareness, phonics, fluency, comprehension), Practical Living Instruction (e.g., emergency words, social words, functional words), Phases of Learning (i.e., fluency, generalization), and Settings (e.g., home, work).

While some of the same category code names are used for both Questions 26 and 28, it is not an interchangeable list of responses. In some cases the same teacher

responses can be found across both sets of responses (Questions 26 and 28) and the process of code development was the same. However, the teacher responses for Question 28 presented a different set of responses that we examined and discussed. The focus of Question 28 on students' transition to adult life created differences. Examples of Practical Living Instruction that teachers described were skills and instruction in the areas of cooking, social skills, job applications, banking, weather warnings, and reading instruction manuals. The category of Academic Instruction included all instruction for safety and survival words and signs, personal information, and environmental print including words and signs other than the safety and survival ones. This code also encompassed teacher responses about telling time, calendar skills, world knowledge, and current events. Several teachers listed phonemic awareness and phonics listed as skills having the highest priority as students with MSID become adults and make the transition from a school setting to the adult community. The teachers may have thought these would be valuable skills for students to already have and did not necessarily mean instruction should be devoted to teaching those skills to students a few short years away from their exiting the school system. Reliability data for Question 28 were 89% accuracy across the two reliability coders selecting the same codes for 30% of the teacher responses. A complete list of the responses by category codes is presented for the codes located in Appendix J.

In Table 4.20, teachers report by far placing the most emphasis on teaching reading skills through Practical Living (70.1%) and Academic Instruction (65.4%). Further down, the next highest at only 22.4% was Settings followed by Literacy Areas by Name (15.0%). This is consistent with Question 26 in which teachers seem to be mainly

teaching words in practical or academic instructional situations. The remaining codes were all less than 5% of responses.

Table 4.20, High Priority Literacy Skills

High Priority Skills	Percentage	Number of Responses
Practical Living Instruction	70.1%	75
Academic Instruction	65.4%	70
Settings	22.4%	24
Literacy Areas by Name	15.0%	16
Commercial Programs and Materials	4.7%	5
Instructional Strategies	4.7%	5
Phases of Learning	2.8%	3
Total Teachers		107

Research Question Three, "In which literacy skill areas (phonemic awareness, phonics, vocabulary, fluency, and comprehension) do teachers of students with MSID in Kentucky report they are providing instruction?" can be summarized by teacher responses indicating students were receiving literacy instruction across a wide range of content, activities, materials, and settings. Teachers taught across many different categories of words (e.g., community/vocational, Dolch, recipe/cooking/food/grocery) and indicated the use of a significant number of reading skill adaptations and modifications such as picture prompts, picture supported texts, repeated story lines, predictable sentences, etc.

Responses to Question 27 helped round out the information about instructional activities through the types of instructional procedures used to teach literacy skills.

It proved more difficult to definitively answer the question about the literacy skill areas in which students were receiving instruction. Responses actually naming the literacy skill areas were low (6.8%) for Question 26 and limited, naming only comprehension and fluency. Question 28 responses listed four of the literacy skill areas (phonemic awareness, phonics, comprehension, and fluency) but at a low percentage of 2.8%.

However, a connection between responses that were representative of or related to the literacy skill area of vocabulary (learning to use words when speaking, comprehending words spoken to them, understanding word concepts, and reading written words) and to sight word instruction (learning to read written words through visual recognition) were evidenced through the responses both by examples named in responses and through high percentages for these categories of responses. For example, Question 26 asking about activities in which students use the words they have learned or are learning yielded high percentages for instruction and activities associated with vocabulary and sight words. It appears that vocabulary, including sight word instruction, is the most important literacy area of instruction for these teachers and the one in which their students received the most instruction.

Chapter Five

Discussion and Conclusions

The purpose of Chapter Five is to summarize the research findings and present conclusions that can be made based on the results of the research study. Each research question will be considered along with its limitations and suggestions for future research studies.

Research Question One

"What do classroom teachers of students with MSID in Kentucky report as having learned in their university/college teacher preparation programs about literacy?"

While a high percentage of teachers in the state of Kentucky report that they learned about literacy in their university programs, it also appears that this instruction was not comprehensive across all of the literacy areas. Some teachers only learned about sight word/vocabulary instruction while others mainly focused on comprehension.

Many teachers who did not receive literacy instruction in their MSID coursework at university/college said they found literacy knowledge and resources elsewhere. Some of the sources of knowledge were attributed to experiences in professional development, when working with colleagues, or when earning degrees or taking coursework in general education.

It is logical that teachers must have had certain criteria in mind as they selected answers in the survey and this may not always be clearly discernable in the data. The level of agreement in whether literacy was taught in their university/college teacher preparation programs may have meant different things to different participants. Does slightly agree mean they learned about only one literacy area or learned a little bit about

several areas? Teacher comments about what they learned ranged widely. Some teachers indicated they learned little to nothing about literacy and students with MSID while other responses focused on things they did learn such as data collection and research-based instructional procedures such as constant time delay (CTD), which were then applied in the delivery of literacy instruction. A teacher noted: "Instruction was based more toward what each of these literacy skills are and how the students should demonstrate them, not how to actually teach these skills to students with disabilities. Instructional strategies were not provided at the college level in this area."

In answering Research Question One, many teachers explained where or how they had learned about literacy and how to teach literacy skills. For some teachers this knowledge originated in elementary education reading courses, while completing a teaching certificate for general education or in a program in communication disorders, working with other colleague teachers, participating in the Kentucky Reading Project, being a Reading Recovery teacher, in classrooms with teachers for their practicum courses and student teaching, and through their own investigations.

Research Question Two

"What do special education teachers in Kentucky believe about their students with MSID and literacy?"

The percentages for teachers' beliefs about students with MSID and the students' literacy abilities were higher than the percentages reported in university/college teacher preparation programs for having learned how to teach literacy skills. Most teachers reported across all of the five literacy areas (e.g., phonemic awareness, phonics,

vocabulary, fluency, comprehension) that they agree to some extent (i.e., strongly agree, agree, slightly agree) that students with MSID can learn these literacy skills.

This difference seems to point at a type of disconnect between learning about literacy skills in preparing to become a teacher of students with MSID and one's beliefs in students' ability to learn. It is possible that some teachers had a foundational philosophical belief in the abilities of students with MSID to learn from the very beginning, prior to entering formal coursework in a university/college program. Perhaps these beliefs were grounded more in thinking that students with MSID had historically often not been given opportunities or held to higher standards and when teachers were given the chance to talk about their beliefs, they came down more strongly on the side of saying students with MSID could learn these literacy skills regardless of what their actual training in teaching literacy skills had been.

A variable that may account for the differences between university/college learning and beliefs is the need for social acceptability in providing what could be determined to be socially desirable (Nardi, 2006) responses when asked about the ability of students with MSID to learn literacy skills. Another possible explanation is the approach of presuming competence when faced with the question of explaining one's beliefs about the abilities of others, particularly others with significant disabilities (Travers & Ayres, 2015).

For some teachers it also is clear that they have filled the gaps in their knowledge about literacy skills that remained after completing university/college coursework in MSID. Teachers have actively sought out literacy knowledge through professional development sessions, through their own investigations and research, and while working

with teaching colleagues. They have acquired knowledge via elementary education courses and degrees that have yielded information about (primarily) teaching children without disabilities.

Another reason for the disconnect between what teachers learned in university/colleges MSID courses and their beliefs may be the literacy skills themselves. There was more agreement among these survey participants that students with MSID can learn sight words, a component of vocabulary literacy skills. While only about half the teachers report university/college instruction in learning about sight word instruction for students with MSID, the skill of learning how to teach sight word identification by itself can be a fairly simple straightforward learning task. The sight words instructional component by itself can be comparatively easy for teachers to learn and it is instructional content that teachers may have often seen in other classrooms. Sight word instruction also may be a commonly found objective on students' individual education programs (IEPs) and therefore an area with which teachers have become more familiar. However, it is not best practice to teach sight words in isolation. Best practice is identifying vocabulary words that are of high interest to students, that are personally meaningful to the students in some way, and planning for the use of the targeted sight word stimuli in the context of sentences, paragraphs, or books along with integrating other important literacy skills such as fluency and comprehension (NRP, 2000). However, the question remains, as it always does: What do we know about the instruction that teachers are implementing with their students in their own classrooms outside the confines of a research study?

Responses about students' abilities to learn sight words report more agreement while learning skills in the perhaps more complex, and perhaps less familiar to teachers,

literacy areas of fluency and comprehension report less agreement. A pattern seems to emerge that the skills that may be easier to teach have higher degrees of agreement in beliefs while what may be the more complex literacy skills correspondingly have lower degrees of agreement.

However, it is also true that many teachers are concerned about functionality and real-life application of learned skills. Teachers may be focusing on teaching sight words because these literacy skills can be immediately useful and meaningful in to students across instructional activities and settings. Teachers' top response areas on the categories of words taught indicated a focus on teaching vocabulary from the community including work and job sites; from recipes, cooking activities, food items, and grocery stores; and from students' personal interests and family activities, with Dolch high frequency words also as an integral part of the instruction.

There were differences in perceptions about what students with MSID can learn based on the participants' geographical location. Teachers in urban/suburban area were more likely to strongly agree or agree in their beliefs about student abilities across all of the literacy areas except fluency than were teachers in rural areas. The reasons for these differences across geographic areas may be found in teachers' access to the most current research-based knowledge and practices. There may be differences in the available mentors or role models observed, the teaching procedures or the teaching and learning culture in place in their schools. There could be differences in the beliefs about the learning expectations for students with MSID based on school culture or past history for students with MSID.

Teachers with fewer years of teaching experience (1-5 or 6-10) were more likely to strongly agree or agree in their beliefs about student abilities in phonemic awareness, phonics, and sight word identification than were teachers with more years of experience. Again, the differences could be attributed to more a more current knowledge base and higher expectations for students with MSID among teachers who were more recent graduates of university/college teacher preparation programs. As special education research and teaching practices advance there will always be teachers already in the classroom who must be reached through different routes as compared to the more recent teacher candidates just entering the profession.

The differences noted among teachers with Rank 3 (bachelor's degree) were that these teachers were more likely to strongly agree or agree about students' abilities in learning phonics and comprehension skills than were teachers with more advanced degrees. A high percentage (95.3%) of Rank 3 teachers strongly agree or agree that students with MSID could learn phonics. Knowledge about teaching phonics skills to students with MSID (Ahlgrim-Dezell et al., 2016) is evolving in significant ways and technology is beginning to be incorporated into instruction, particularly for students who cannot verbalize the letter sounds. This is a change in the approach from past years that teaching phonics was not thought to be appropriate for many students with MSID.

The reasons for these differences are ripe with possibilities and may include less experienced teachers having access to more current information about the abilities of students with MSID to learn instructional content or perhaps this group of teachers has developed higher expectations for students with MSID. For many reasons these teachers may have been better able to bridge the potential gap between the content presented in

their teacher preparation program and their subsequent teacher beliefs. All of these variables may contribute in different ways to the variance in university/college learning and teacher beliefs, which then, in turn, may impact classroom practice and instruction.

Research Question Three

"In which literacy skill areas (phonemic awareness, phonics, vocabulary, fluency, and comprehension) do teachers of students with MSID in Kentucky report they are providing instruction?"

Teachers spoke about the literacy skills they were teaching. From their responses it can be concluded that, in general, students are receiving literacy instruction and there is an emphasis on functional/practical/survival words. The top five categories of words teachers selected as being taught to their students were community and vocational; Dolch; recipe, cooking, food, and grocery; personal interest and family; and core content/academic area. This largely mirrors teachers' beliefs that students with MSID may be better equipped for learning sight words than for other types of literacy skills, therefore, teachers' beliefs may shape their instructional practices. High percentages of teachers responded to indicate the instructional procedures they used to deliver reading instruction. Direct instruction, constant time delay, simultaneous prompting, and error correction received the highest percentages from these participants. It is possible that these teacher responses indicate familiarity with the concept of meaningful instruction, either instruction that is inherently personally meaningful and therefore functional to individual students and also to making adaptations to instructional content in order to make it meaningful and functional for students. It also is possible that teachers are already familiar with and using data-based instructional procedures to deliver

instructional content. These are critical milestones to determine that all teachers of students with MSID have reached and that will provide a foundation on which additional knowledge and teaching skills can be built.

One thread running through all three research questions is how university instruction is not the definitive source for shaping beliefs. Teachers also seem to acquire their beliefs from other sources (professional development, other teachers, student teaching, etc.) and because beliefs seem to shape instructional practices, understanding teachers' belief formations may be an important future direction for understanding what shapes teachers instructional practices.

Limitations

The limitations for this research study may include the effects of social desirability in participants giving answers about their beliefs that they "think" they are supposed to believe. They may have been swayed by thoughts about there being acceptable answers they were supposed to give. Teachers said they believed certain things about literacy with high percentages of agreement but when probed further there were discrepancies that emerged in percentages for literacy instructional practices that were lower.

Respondents took approximately 10 min to complete the survey. Teachers are busy people with demanding jobs but providing answers so quickly may have not resulted in well thought out or considered answers. It was good that the survey could be completed quickly and this may have been the variable that helped entice teachers to participate but, at the same time, more in-depth responses would have been more informative. Survey research is most definitely a research field unto itself. This foray into

survey research was both intriguing and challenging. Providing teachers with check boxes, etc. may have helped with the ease of completion but one wonders what the answers may have been had they been asked to fill in the blanks and provide their own responses. The danger could have been frustration and lack of survey completion but perhaps sitting and thinking about, reflecting on their actual experiences, beliefs, and practices would have been more accurate and illuminating.

There may have been concerns about anonymity. Although assurances were given about confidentiality, this can be a common and often-expressed concern when completing surveys. I presented myself as a fellow teacher with strong ties to the classroom and K-12 education but being a doctoral candidate makes me different from a typical classroom teacher. The DOSE sent the e-mail invitation to the teachers. Depending on that relationship, there may have been positive or negative effects on the survey and its completion.

Not every MSID teacher in the state of Kentucky received the survey. The personal and professional characteristics of teachers who chose to complete the survey may have contributed towards the answers and information provided in the survey. Even with data search requests submitted to the Kentucky Department of Education-Enterprise Data Division and to the Education Professional Standards Board-Open Records Request, it was not possible to find out information about the number of MSID teachers in the state of Kentucky. Therefore, a survey response rate was not determined.

There may be discrepancies between what teachers self-report about their instructional practices in the classroom and the actual practices implemented. The most accurate method for collecting data on classroom instruction would be by trained

observers and data collectors; however, this was beyond the scope of this research study. It seems plausible that even if there is a gap between reported practice and actual practice, teachers who are aware of what they could be doing, perhaps even what they *want* to be doing, provide a stronger foundation on which to create positive changes than teachers who do not yet have this knowledge or awareness.

A final limitation may be the characteristics of the teachers who were willing to participate in the survey as compared to those who chose not to respond. These participants may have been more interested in literacy. They may have been more eager to discuss the literacy and learning issues related to their university/college preparation programs and the successes and barriers related to literacy instruction that they faced in their classrooms. It is worth noting that no teachers chose the undecided response in any of the seven Likert questions. All teachers had a response represented by the strongly disagree, disagree, slightly disagree, slightly agree, agree, or strongly agree choices in these questions.

Suggestions for Future Research

A significant number of teachers said they learned about literacy for students with MSID in their teacher preparation programs but narrative comments suggest that for many this instruction was either limited in depth and scope or simply did not occur. Teachers who completed this survey believe that students with MSID can learn literacy skills. Their beliefs appear to be centered within a framework of individualized instruction. Future research studies that explore the connection between teachers' beliefs and their classroom instruction could be helpful in determining ways in which to impact beliefs that can then translate into effective literacy instruction in the classroom.

The guiding principles of applied behavior analysis (i.e., generalization, effective, technological, applied, conceptually systematic, analytic, and behavioral; Baer, Wolf, & Risley, 1968) must provide the foundation for effective classroom instruction in literacy skills. Moreover, adherence to evidenced-based practices in research across different research methods must create the basis for further research to help make the determination of literacy skills instruction appropriate for the needs of individual students with MSID (Odom et al., 2005). It also is important while continuing efforts to further develop the literacy evidence-base for students with MSID to focus on disseminating best practices and the current evidence-based knowledge to pre-service teacher candidates through university coursework and to current classroom teachers through professional development and other opportunities.

Conducting follow-up interviews with willing survey participants could be a valuable next step in looking in a more in-depth manner at what teachers know, what they believe, and what they do with regard to literacy skills for students with MSID. Doing actual observations in classrooms would be highly informative in collecting both stand-alone observation data but observations could also be done in conjunction with teachers' self-reported data.

It is worth noting the teacher comments that spoke of seeking out professional development opportunities to learn more about teaching literacy to their students with MSID. Professional development may be an effective way to bring knowledge and create change for teachers already in the school systems. A collaborative partnership between higher education and K-12 school systems would be beneficial for many reasons but one particular reason would be the opportunity to work towards better preparing pre-service

teachers and filling in the learning gaps of those teachers already in school systems. Student teaching placements and teachers' first year of teaching in the Kentucky Teacher Internship program also may provide meaningful avenues in which to address literacy skill knowledge and its application for students with MSID. It often feels like a wide gulf exists between K12 and universities in terms of expectations, knowledge, and understanding of the other's role in preparing teachers and sustaining them in their classrooms. Efforts to create connections and develop relationships would be beneficial to all stakeholders but perhaps most beneficial to the students with MSID.

Changes in university teacher preparation programs to require broader certifications across general and special education or across different areas of special education such as MSID and learning and behavioral disorders (LBD) may allow for wider perspectives and greater learning opportunities in literacy instruction. Survey participants spoke of literacy knowledge acquired in general education courses but appeared to often see this information as applicable to students without disabilities, not making a connection or generalizing instructional content to students with MSID. Bridging that gap could be addressed through more co-teaching and collaboration between university general and special education programs and professors.

Another important variable to create positive change could be the greater inclusion of reflection practices and analytical skills in pre-service teacher preparation coursework as well as classroom teacher professional development sessions. Without the knowledge about how to effectively use these skills to analyze and reflect upon each teaching endeavor (e.g., think about what went well and why, what did not go well and why, how to make changes and improvements), new knowledge may exist in isolation

without the support needed to fully integrate it into the classroom instructional practices and learning culture.

As the literacy research base continues to expand there will be an effect on university/college instruction and on what happens in K12 classrooms. Research that is meaningful to teachers is important. Research that captures the reality of K-12 classroom instruction for students with MSID also is crucial.

The gaps in knowledge about literacy instruction in university/college MSID programs are clearly represented in these teachers' responses. Having a clear idea about what to teach pre-service teachers is critical. Reading skills are foundational skills for students with MSID that can provide greater independence across all academic areas and all settings in their current and future lives. Making changes at the university/college programming level along with working more closely together with K-12 school systems to reach classroom teachers is an important piece in making the needed changes. There are potential research opportunities at every step along the way.

Conclusions

The curriculum for students with MSID has evolved from developmental to functional to social justice-based and inclusion-based social and communication skill instruction. At the present time there seem to be residual pieces of all the instructional areas that have gone before, while at the same time, there is now a greater focus on finding a balance between functional IEP-based instruction and relevant adapted core content skill instruction. For these areas of instruction to be meaningful and integrated would be the best outcome possible for students with MSID.

Literacy skills are an important component of both functional and core content instruction. As noted at the beginning of this dissertation, literacy includes many skills involving the use of language to read, write, listen, and speak. The ultimate goal in acquiring literacy skills is to function as independently, and in as integrated a manner as possible, in a literate society. Literacy skills are critical skills for all students, both with and without disabilities (Kozol, 1985).

These survey questions were posed to give classroom teachers of students with MSID a voice in explaining their thoughts and in sharing their perspectives about what they have learned about literacy, what they believe, and about their current practices in literacy. It is hoped that the information contained in this research can help make a contribution towards more effective literacy instruction for students with MSID.

Appendix A

Article Search Terms

Disability Words	Literacy Words	Additional Search Words
Autism	Literacy	Constant Time Delay
Moderate Autism	Reading	Progressive Time Delay
Severe Autism	Vocabulary	Time Delay
Moderate Severe Autism	Sight Words	Simultaneous Prompting
Classic Autism	Phonemic Awareness	System of Least Prompts
Disabilities	Phonics	Least to Most Prompting
Developmental Disabilities	Reading Fluency	Most to Least Prompting
Mental Retardation	Reading Comprehension	Error Correction
Intellectual Disabilities		Language Arts
Cognitive Disabilities		Reading Mastery
Functional Disabilities		
Moderate Disabilities		
Moderate Mental Disabilities		
Moderate Cognitive Disabilities		
Severe Disabilities		
Severe Cognitive Disabilities		
Moderate Severe Disabilities		
Profound Disabilities		
Down syndrome		

Appendix B

Summary of Research Studies

Reference	Participants	Independent Variable	Dependent Variable	Research Design/ Maintenance/ Generalization	Treatment Fidelity/ IOA	Results
Alberto, Fredrick, Hughes, McIntosh, & Cihak (2007)	<p>1. M, 9 years, MSID, IQ 45</p> <p>2. F, 9 years, MSID, IQ 52</p> <p>3. M, 10 years, MSID, IQ 38</p> <p>4. F, 12 years, MSID, ADHD, speech/vision impairment, IQ 50</p> <p>5. F, 14 years, MSID, cerebral palsy, vision/hearing impairment, IQ 42</p> <p>6. M, 14 years, MSID, ADHD, IQ 48</p>	CTD instructional procedure	“State the name of the business when presented with the logo and ... name a product, or type of product, that could be purchased at that business”	MP across sets of logos design/+/+	-/+	All participants acquired and maintained targeted skills; comprehension component addressed by naming item that could be purchased from business. Social validity surveys by teachers & article authors, parent validation of potential target stimuli.
Allor, Mathes,	3 year study with 59 participants	Intervention: 34 participants: <i>Early</i>	Reading skills pre and posttest	Pretest & posttest (at the	+/-	Positive increases in

Roberts, Cheatham, & Champlin (2010)	(34=intervention, 25=contrast), Across both groups: 22 F, 37 M, IQ range 40-69	<p><i>Interventions in Reading</i> program.</p> <p>Contrast: (25 total participants)</p> <p>14 students: <i>Open Court, Scott Foreman Reading Street, & Corrective Reading.</i></p> <p>11 students: Basic literary instruction.</p> <p>3 students: Sight word instruction.</p>	<p>measured on the CTOPP, EVT, PPVT-III, TOWRE, & subtests of the WLPB-R. Skills include phonemic awareness, blending words, blending nonwords, segmenting words, expressive vocabulary, receptive vocabulary, listening comprehension, word attack, phonemic decoding efficiency, letter-word ID, sight word efficiency, & reading passage comprehension.</p> <p>Progress monitoring: DIBELS.</p>	end of each school year) using group statistical analyses to evaluate data/+/+		reading skills of the intervention group as compared to the control (contrast) group.
Ahlgrim-Dezell, Browder, Wood, Stanger, Preston, & Kemp-Inman	31 participants, grades K-8, ID or DD, AAC users 22 teachers from 16 schools	Time delay, SLP	"manipulate phonemes to decode words to read connected text and answer comprehension questions"	RCT, ANOVA, HLM, Cohen's <i>d</i> , descriptive statistics -/-	+/-	differences b/t treatment & control in phoneme ID, use of iPad technology overcame barrier

(2016)..						of lack of ability to voice phoneme, & decoding words, no difference in blending sounds to ID words
Bailey, Angell, & Stoner (2011)	<p>1. F, 15 years, Down syndrome, MID, CCN, used words, gestures, high-tech AAC</p> <p>2. M, 15 years, MID, CCN, ASD, used words, low-tech AAC</p> <p>3. F, 12 years, MID, OHI, CCN, ASD, used words, low-tech AAC</p> <p>4. M, 13 years, MID, hearing loss, CCN, ASD, used gestures, signs, writing, high-tech AAC</p>	“Interactive reading experience with a phoneme-loaded book” & “individual scaffolded phoneme lessons” with teacher model & error correction.	“(a) sound-to-letter matching skills and (b) single-word decoding tasks involving novel words”	MB across skills design replicated across participants/+/-	+/+	Increases in sound-to-letter matching, mixed results in whole word decoding.
Birkan (2005)	<p>1. M, 6 years, IQ 58</p> <p>2. M, 8 years, IQ</p>	SP instructional procedure	Expressive word ID for participant #2 (male, 8 years, IQ 38) (time and	MP across behaviors design, replicated	+/+	Effective across participants and targeted skills.

	38 3. F, 13 years, IQ 45		number ID for other participants)	across participants/+/ +		
Bradford, Shippen, Alberto, Houchins, & Floes (2006)	1. M, 12 years, MID, IQ 46 2. M, 14 years, MID, TBI, IQ 49 3. M, 15 years, MID, TBI, IQ 55	Modified version of the <i>Corrective Reading Program, Decoding A</i>	Oral letter sounds, written letter sounds, & word reading	Pre and posttest /+/ +	+/+	Explicit instruction effective in participants acquiring the targeted skills.
Browder, Ahlgrim-Dezell, Courtade, Gibbs, & Flowers (2008).	23 participants (11 intervention, 12 control). Across both groups: 10 F, 13 M, grades K-4, MSPID, IQ range 20-54	Intervention: ELSB taught with SLP instructional procedure. Control: <i>Edmark</i> sight word curriculum	Skills measured on the NVLA, ELSA, PPVT-III, subtests of the WLPB	Pre and posttest (using group statistical analyses, emphasizing effect sizes)/-/-	+/-	For intervention group, significant increases in objectives noted overall compared to control, particularly in phonemic awareness. No statistically significant differences between groups on some other variables (e.g., assessment measuring SBL). Content validity by experts on

						NVLA, fidelity measures on implementation of ELSA & NVLA assessments.
Browder, Lee, & Mims (2011)	<p>1. F, 8 years, SID, CP, eye gaze</p> <p>2. F, 9 years, SID, blind, vocalizations & facial expressions, aggressive</p> <p>3. M, 6 years, SID, CP, vocalizations & facial expressions</p>	SLP instructional procedure with a 5 s response interval after each question or direction for each task analyzed step for interactive shared story reading	Listening comprehension and engagement while reading a storybook	MP single case design (variation of MP across participants)/+/+	+/+	Students increased responses across all DV. Social validity: follow-up teacher survey had positive results across all measures.
Browder, Mims, Spooner, Ahlgrim-Dezell, & Lee (2008)	<p>1. F, 7 years, SPID, spina bifida, seizures, uses single switch</p> <p>2. M, 7 years, PID, cerebral palsy, seizures, scoliosis, uses single switch</p> <p>3. M, 10 years, PID, cerebral palsy, seizures, quadriplegia, uses</p>	SLP instructional procedure, task analyzed steps during the SBL utilizing principles of UDL (representation, expression, engagement)	Individualized responses for comprehension, prediction, turn taking / anticipation, responses to surprise element in story, etc.	MP across participants design/-/-	+/+	All participants increased independent responses. Social validity (classroom teacher survey).

	head switch					
Cohen, Heller, Alberto & Fredrick (2008)	5 participants, 2 F & 3 M, ages 9-14, IQs 40-61	Word decoding strategy implemented with CTD instructional procedure	Identify sounds in word, read word	MP across participants design /+ /+	+ / +	Effective with mixed results in blending words. Social validity surveys completed by participants and participants' teachers.
Coleman-Martin, Heller, Cihak, & Irvine (2005)	1. F, 11 years, cerebral palsy, IQ 81, uses SDP on laptop, verbalizes some words 2. F, 12 years, MID, no IQ score information, autism, uses Inkidu AC device 3. F, 16 years, MID, no IQ score information, brain injury from stroke, uses Dynavox AC device & gestures	NRA, which uses guided practice to provide instruction on targeted words and "a metacognitive strategy using internal speech for decoding words." A sequence of teacher – led and CAI delivery of instruction was used.	Identify vocabulary words	Multiple conditions design across students (ABACAD =baseline, teacher only, baseline, teacher + CAI, baseline, CAI only) /- /-	+ / +	All participants reached criterion using the NRA across all conditions (teacher only, teacher + CAI, CAI only). Teachers completed a survey about using CAI.
Collins, Evans, Creech-Galloway,	1. M, 9 years, MSID, IQ 50 2. F, 13 years,	1. SP instructional procedure, massed trials, special education resource	Identification of academic core content and functional	AATD across conditions & participants /+ /	+ / +	Some mixed results particularly with the youngest

Karl, & Miller (2007)	MSID, IQ 40 3. M, 13 years, MSID, TBI due to a stroke, vision impairment, IQ 43 4. M, 19 years, MSID, IQ 46	room 2. SP instructional procedure, distributed trials, general education classroom 3. Embedded instruction, general education classroom	vocabulary words	+		participant but the other participants reached full criterion on both categories of words.
Collins, Hager, & Galloway (2011)	1. M, 14 years, MSID, IQ 55 2. M, 14 years, MSID, IQ 47 3. F, 15 years, MSID, Down syndrome, IQ 41	CTD instructional procedure	State or point to core content vocabulary or concepts when presented with stimuli or in response to a question. Use calculator to compute prices and sales tax.	MP across tasks design replicated across participants/+/ +	+/+	DV data were collected across core content objectives with a functional application component and generalization across materials. Mixed results: All participants learned functional & core language arts content with mixed results across science and math content.
Dogoe, Banda, Lock, & Feinstein	1. F, 24 years, moderate autism 2. F, 23 years,	CTD instructional procedure	Reading product warning label words/defining word	ABC design/+/+	+/+	Effective instructional procedure in

(2011)	moderate autism/physical disabilities		in context/giving example in context			context of the research design.
Falkenstine, Collins, Schuster & Kleinert (2009)	1. F, 16 years, MSID, IQ 42 2. M, 16 years, MSID, IQ 47 3. M, 16 years, MSID, IQ 52	CTD instructional procedure	Different target stimuli for each participant (i.e., telling time, arts & humanities vocabulary, U.S. state abbreviations) along with discrete & chained nontarget information. Group setting = observational learning of stimuli	MP across skills design replicated across participants/+/+	+/+	Effective instructional procedure. Reached criterion on targeted skills and their own instructive feedback skills with increases in the acquisition of target & nontarget skills of other group participants.
Hanser, & Erickson (2007)	1. F, 13 years, CP, quadriplegia, AAC device: direct selection right index finger 2. M, 13 years, MID, CP, quadriplegia, AAC device: direct selection right middle or little finger	<i>Literacy Through Unity: Word Study Program</i> & a LAM, which creates files to record data from sessions that can be transferred to the computer for analysis	ID target words & using AAC devices: (a) communicate target words via icon sequencing, (b) communicate as many words as possible with icons in 10 minutes, (c) spell as many words as possible in 10 minutes, & (d) encode words from spelling list	Pre and posttest & nonconcurrent MB with number of baseline sessions/+/+	+/+	Increases were noted across all participants with some degree of variability. The authors state, “Even more compelling is the impact the instruction had on participants’ lives.” “All three of the participants now

	<p>3. m, 7 years, CP, quadriplegia, AAC device: 2 switch scanning via head switches</p> <p>(Participant criteria included no speech, using specific AAC system at minimum RPM)</p>					<p>behave in ways that suggest they see themselves as readers and writers.” (Independent initiation and generalization of targeted skills creating yet more knowledge and access to info.)</p>
Hetzroni & Shalem (2005)	<p>1. M, 11 years</p> <p>2. M, 11 years</p> <p>3. F, 13 years</p> <p>4. F, 10 years</p> <p>5. F, 10 years</p> <p>6. M, 10 years</p> <p>All participants had MID, autism, used communication boards comprised of drawings, pictures, & portions of product</p>	<p>C++ computer generated food product logos used in a computer program to systematically faded across 7 levels to (Hebrew) words</p>	<p>“Match the logo or one of the fading stages to the picture of the original product”</p>	<p>MP across participants design used with 2 sets of 3 participants/+/ +</p>	<p>+/+</p>	<p>All participants learned to match their individual words to the logos. Social validity of selected items (high preference choices) given by participants’ families or valued persons in their lives.</p>

	packaging.					
Lemons, & Fuchs (2010)	24 participants, 11 F, 13 M, ages 7-16, all participants had Down syndrome	30 hours of 1:1 instruction, 25 scripted lessons across 2 daily sessions, each lesson taught for 3 days. Session1: “targeted words or letter combinations, decodable words, sight words, & an intervention-aligned story” with a review component. Session 2: “Review of sounds, decodable words, and sight words” from session #1 followed by fluency, reading connected text, & a review component. Modeling, prompts as needed after opportunities to respond, error correction, a visual schedule of activities, & token economy behavior management system were used.	4 outcome measures administered as a pretest & after each lesson: (a) letter sounds, (b) targeted sight words, (c) list of decodable words, & (d) nonsense word list. For control purposes, an individual non-taught, non-decodable sight words list was also administered as an assessment.	Individual growth curve analysis in a non-experimental design. Variety of assessment measures including word ID subtest of the WRMT-R, KBIT-2, SWAM rating scale, participant IEP, & parent reading survey were used to create individual participant composite variables which were then compared to the participant intervention data/-/+	+/+	Most participants showed increases in the targeted reading skills. This explicit & systematic instruction was effective for some participants (e.g., those who could already read some words, had phonological awareness).

Karl, Collins, Hager, & Ault (2013).	<p>1. M, 15 years, MSID, IQ 41</p> <p>2. M, 16 years, MSID, IQ 55</p> <p>3. M, 15 years, MSID, IQ 48</p> <p>4. F, 18 years, MSID, IQ 48</p>	SP instructional procedure, small group	3 core content standards (1 each reading, math, and science) embedded in a functional cooking activity	MP across behaviors replicated across participants +/+	+/+	Students learned the core content instruction in the context of the baking a cake activity
Mechling, Gast, & Krupa (2007)	<p>1. F, 20 years, MID, IQ 54</p> <p>2. F, 19 years, MID, Down syndrome, IQ 53</p> <p>3. M, 19 years, MID, CP, IQ 52</p>	CTD instructional procedure, IWB technology, small group instructional arrangement	“(a) reading target grocery words; (b) matching grocery items photos to grocery target words; (c) reading other students’ target grocery words through observational learning; and (d) matching grocery item photos to observational grocery words”	MP across word sets design replicated with 3 participants/+/ +	+/+	CAI (i.e., the IWB technology) effective in the delivery of target stimuli in a group setting with assessment of observational learning. Maintenance data mixed. Reasons for mixed maintenance data may include lack of thinning of reinforcement schedule & low number (i.e., only 1 session) of sessions to criterion

						required.
Mechling, Gast, & Thompson (2008)	<p>1. F, 21 years, MID, IQ 54</p> <p>2. F, 19 years, MID, Down syndrome, IQ 53</p> <p>3. M. 19 years, MID, CP, IQ 52</p> <p>(Same participants as in Mechling, Gast, & Krupa, 2007.)</p>	CTD instructional procedure	Words found in the community grocery shopping environment (aisle signs) were targeted for instruction	AATD across 2 conditions (IWB and flash cards) & replicated across 3 students	+/+	IWB & “flash card instruction were (both) effective in teaching target sight words” but participants read a higher percentage of the observational stimuli when these words were presented via technology. 3 social validity questions asked of participants following final probe.
Mims, Browder, Baker, Lee, & Spooner (2009)	<p>1. M, 6 years, DD, vision impairments, CP</p> <p>2. F, 9 years, DD, vision impairments, CP</p>	SLP instructional procedure	“Selection of one of two objects to answer comprehension questions asked throughout the read aloud of the story”	MP across materials design replicated with 2 participants/+/+	+/+	Increases in correct participant responses across all 3 books. Social validity measured via a survey completed by the participants’ special education

						teachers.
Minarovic, & Bambara (2007)	<p>1. F, 40 years, MID, ID few sight words</p> <p>2. M, 32 years, MID, ID no sight words</p> <p>3. M, 56 years, MID, ID few sight words</p>	PTD instructional procedure and MTL instructional procedure, sight words job checklist	PTD instructional procedure: sight word ID until criterion. SLP instructional procedure: stating the sight word on a card followed by describing/ performing the action/task to be completed (e.g., “porch” means sweep the porch) until criterion. SLP instructional procedure: Initiation of job tasks using the sight word job checklist in the work environment until criterion.	MP across participants design/+/+	+/+	Successful acquisition of target sight words, demonstration of word meanings & job actions/tasks to be completed. Increases in independent job task initiations with a job checklist presented in a consistent order. Lack of skill generalization of job task initiation to novel order job checklist until novel order specifically taught.
Smith, Schuster, Collins & Kleinert (2011)	<p>1. M, 15 years, MSID, IQ 48</p> <p>2. F, 18 years, OHI, MID, IQ 67</p>	SP instructional procedure	Sight word ID (restaurant vocabulary) and Sd embedded NTI (sight word classification:	MP across behaviors design, replicated across participants/+/	+/+	Effective for both sight word ID & NTI word classification responses.

	<p>3. M, 19 years, MID, IQ 65</p> <p>4. M, 16 years, MID, ADHD, IQ 55</p>		beverage, dessert, etc.)	+		
Spooner, Rivera, Browder, Baker, & Salas (2009)	<p>1. F, 6 years, MID, IQ 54, nonreader, limited English language skills, home environment in which only Spanish was spoken</p>	<p>SLP instructional procedure used with task analyzed story-based lesson across 3 culturally relevant books (1: written & read in Spanish, 2: written & read in Spanish & read in English, 3: written & read in English with some Spanish vocabulary). Intervention task analysis for paraprofessional with identified target responses for participant. Intervention implemented by Spanish speaking paraprofessional.</p>	<p>Task analyzed steps across 3 skill sets. Examples: Points to or says the title of the book after it is read to her and she is asked to do so, orients book, opens book, answers prediction question, turns at least 1 page, etc. Data collected on number of correct responses.</p>	MP across skill sets design+/+	+/+	<p>Increases in targeted skills, English language only generalization probes showed variability. Interesting cultural comments from Spanish speaking paraprofessional. Social validity survey completed by paraprofessional & lead teacher in participant's classroom.</p>

Acronyms used in Table:

AC = augmentative communication
AAC = alternative and augmentative communication
AATD = adapted alternating treatments design
ADHD = attention deficit hyperactivity disorder
ANOVA = analysis of variance
ASD = autism spectrum disorder
CAI = computer assisted instruction
CCN = complex communication needs
CTOPP = The Comprehensive Test of Phonological Processing
CP = cerebral palsy
CTD = constant time delay
DD = developmental delays
DIBELS = Dynamic Indicators of Basic Early Literacy Skills
DV = dependent variables
ELSA = Early Literacy Skills Assessment
ELSB = Early Literacy Skills Builder
EVT = Expressive Vocabulary Test
F = female
HLM = hierarchical linear model
ID = identification
IEP = individual education program
IOA = inter-observer agreement
IWB = Interactive White Board
KBIT-2 = Kaufmann Brief Intelligence Test, Second Edition
LAM = Language Activity Monitor
M = male
MB = multiple baseline
MID = moderate intellectual disabilities
MP = multiple probe
MSID = moderate to severe intellectual disabilities

MSPID = moderate to severe/profound intellectual disabilities
NVLA = Nonverbal Literacy Assessment
NRA = Nonverbal Reading Approach
NTI = non-target information
OHI = other health impaired
PID = profound intellectual disabilities
PPVT-III = Peabody Picture Vocabulary Test-III
PTD = progressive time delay
RCT = randomized control trial
RPM = rate per minute
SBL = story-based lessons
Sd = discriminative stimulus
SDP = Speaking Dynamically Pro
SID = severe intellectual disabilities
SLP = system of least prompts
SP = simultaneous prompting
SPID = severe profound intellectual disabilities
SWAN = Strengths and Weaknesses of Attention-Deficit/Hyperactivity Disorder Symptoms and Normal Behavior Scale
TBI = traumatic brain injury
TOWRE = Test of Word Reading Efficiency
UDL = universal design for learning
WLPB-R = Woodcock Language Proficiency Battery-Revised
WRMT-R = Woodcock Johnson Reading Mastery Test-Revised

Appendix C

Survey: Literacy and Students with Functional Mental Disabilities in Kentucky

Literacy and Students with Functional Mental Disabilities in Kentucky

PART 1: You and Your Students

Page description:

CLASSROOM TEACHERS: MAKING YOUR VOICE HEARD

This is a survey about reading literacy skills. Its purpose is to give you, the special education classroom teacher, a way to communicate and share your thoughts and beliefs, and to talk about what you are doing and teaching. I am very eager to know more about what you think and your time in completing the survey is greatly appreciated.

Please complete the survey if you have at least one student with functional mental disabilities (FMD). There are 32 survey questions. Many questions have check boxes, etc. so answers can be easily selected. Some questions have boxes in which you can write as much as you would like in answering the question.

Your survey responses will be completely confidential and completing the survey is your consent to participate in this research study (the collection of the survey data). Thank you in advance for helping answer these questions!

1. For the students in your classroom, or on your caseload, check all educational labels that describe your students and their primary disability.

- Functional Mental Disability
- Mild Mental Disability
- Multiple Disabilities
- Developmental Delay
- Specific Learning Disability
- Autism
- Emotional and Behavioral Disorders
- Other Health Impairment
- Deafness or Hearing Impairment
- Deaf-Blindness
- Visual Impairment Including Blindness
- Traumatic Brain Injury
- Orthopedic Impairment
- Speech or Language Impairment

2. What is the total number of students in your classroom/on your caseload?

3. What is the total number of students with FMD in your classroom/on your caseload?

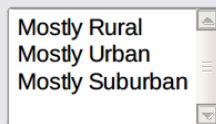
4. What is the approximate number of students in your school? If you have more than one school, select your main school.

100 or less	▲
101 to 250	
251 to 500	
501 to 750	
751 to 1000	
1001 to 1250	
1251 to 1500	
1501 to 1750	
1751 to 2000	
Greater than 2000	▼

5. Which age level students do you teach? Check all that apply.

- Preschool
- Elementary School
- Middle School
- High School
- University/College

6. How would you describe the location of your school? If you work in more than one school, select your main school.

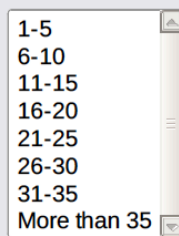


A dropdown menu with three options: "Mostly Rural", "Mostly Urban", and "Mostly Suburban". The menu is currently open, showing the options.

7. Describe the type of classroom(s) in which you are teaching. Select all that apply.

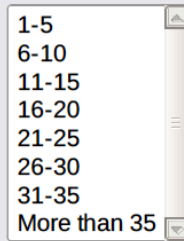
- Collaboration with a general education teacher in a general education classroom setting
- Resource classroom
- Self-contained classroom
- Homebound instruction
- University/College campus
- Hospital setting
- Segregated school
- Institutional setting

8. How many years have you been a classroom teacher?



A dropdown menu with seven options: "1-5", "6-10", "11-15", "16-20", "21-25", "26-30", "31-35", and "More than 35". The menu is currently open, showing the options.

9. How many years ago did you finish your bachelor's degree?

A vertical dropdown menu with a scroll bar on the right. The menu is currently open, showing a list of time intervals. The options are: 1-5, 6-10, 11-15, 16-20, 21-25, 26-30, 31-35, and More than 35. The 'More than 35' option is currently selected and highlighted in a light blue color.

- 1-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26-30
- 31-35
- More than 35

10. Check the teaching certificates you currently hold.

- Moderate and Severe Disabilities
- Learning and Behavioral Disorders
- Hearing Impaired
- Hearing Impaired with Sign Proficiency
- Visually Impaired
- Communication Disorders
- Interdisciplinary Early Childhood Education
- Elementary School (primary-grade 5)
- Middle School (grades 5-9)
- Secondary School (grades 8-12)
- Other

11. Are you currently enrolled in an alternate certification program in moderate and severe disabilities?

- Yes
- No

12. Are you currently enrolled in a master's degree program in moderate and severe disabilities?

- Yes
- No

13. Check your highest teaching rank completed.

Rank 1= 30 credit hours in addition to Rank 2 or National Board Certification
Rank 2= Master's degree or Fifth-Year program
Rank 3= Bachelor's degree

PART 2: Literacy Instruction for Students with FMD and University/College Teacher Education Programs

Page description:

Literacy instruction encompasses many skills involving the use of language to read, write, listen, and speak. Beginning reading/literacy skills include learning how to hold a book, turning the pages of a book, identifying pictures, and phonemic awareness (learning to identify and use the sounds in spoken words).

Other reading/literacy skills are addressed through instruction in:

- Phonics - reading instruction that emphasizes written letter-sound correspondence.
- Vocabulary - learning that words have meaning, expanding knowledge of words used to communicate (with oral language, sign language, an augmentative device, etc.) and words used to listen and understand.
- Sight word identification - identifying words through their visual features.
- Comprehension - understanding oral and print vocabulary.
- Fluency - reading at a rate of speed and with enough accuracy that allows the reading content to be used effectively.

14. My university/college program provided an emphasis on teaching literacy skills to students with FMD. Check the answer that best applies.

- | | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Strongly
Disagree | Disagree | Slightly
Disagree | Undecided | Slightly
Agree | Agree | Strongly
Agree |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

15. In my university/college program, I learned how to teach these literacy skills to students with FMD. Check all that apply.

- Phonemic Awareness - identifying and using the sounds in spoken words
- Phonics - reading instruction that emphasizes written letter-sound correspondence
- Methods for Developing Fluency - for example, guided oral reading and reading error rate, strategies that focus on speed and accuracy
- Vocabulary - for example, word meanings and concepts, expressive and receptive language skills
- Written Expression - for example, writing words and sentences
- Word Identification - for example, sight word identification
- Comprehension - understanding oral and print vocabulary
- Other
- These skills were not addressed in my university/college teacher preparation program.

16. Provide any additional information you feel is relevant about the literacy skills you learned during your university/college teacher preparation program.

17. I think students with FMD can learn phonemic awareness skills. For example, learn to identify spoken words beginning with the same sound, identify the sounds at the beginning and ending of spoken words, and state the individual sounds in a spoken word. Check the answer that best applies.

Strongly Disagree	Disagree	Slightly Disagree	Undecided	Slightly Agree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. I think students with FMD can learn phonics. For example, learn the relationship between the written letter and the letter sound in order to recognize familiar words and decode unfamiliar words. Check the answer that best applies.

Strongly Disagree	Disagree	Slightly Disagree	Undecided	Slightly Agree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. I think students with FMD can learn to read fluently. For example, learn to read quickly, with few mistakes, and read with expression. Check the answer that best applies.

Strongly Disagree	Disagree	Slightly Disagree	Undecided	Slightly Agree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. I think students with FMD can develop vocabulary skills. For example, learn to use words when speaking, comprehend words spoken to them, understand word concepts, and read written words. Check the answer that best applies.

Strongly Disagree	Disagree	Slightly Disagree	Undecided	Slightly Agree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. I think students with FMD can develop sight word identification skills. For example, learn to read written words through visual recognition. Check the answer that best applies.

- | | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Strongly
Disagree | Disagree | Slightly
Disagree | Undecided | Slightly
Agree | Agree | Strongly
Agree |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

22. I think students with FMD can develop comprehension skills. For example, understand and acquire meaning from oral and written words and from text. Check the answer that best applies.

- | | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Strongly
Disagree | Disagree | Slightly
Disagree | Undecided | Slightly
Agree | Agree | Strongly
Agree |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

23. There are many different kinds of comprehension skills. Check the ones you think students with FMD can learn.

- Learn the meaning of individual words
- Identify the main idea, using sentences and pictures
- Answer who, what, where, when, and why comprehension questions
- Use the context of a story to understand difficult vocabulary words
- Make inferences (a judgment or conclusion) about events in a story
- Simplify passive voice constructions. For example, if the student reads the sentence, "Trishla was hugged by Julie." and is then asked, "Who was hugged?" and "Who did the hugging?", can they correctly answer these questions?
- Identify the correct sequence of activities and events in a story
- Other
- I do not believe students with FMD can learn these comprehension skills.

24. If you teach reading skills to your students with FMD, which categories of words do you teach? Check all that apply.

- Core content, academic area vocabulary
- Dolch words (high frequency words from this list)
- Fry words (high frequency words from this list)
- Functional words from recipes, cooking activities, food items, and grocery stores
- Functional words from the community including work and job sites
- Functional words from movies, books, and recreation and leisure activities
- Functional words from students' personal interests and family activities
- Other
- I do not teach any of these skills.

25. Are there adaptations or modifications you use to teach reading skills to your students with FMD? Check all that apply.

- Picture prompts
- Picture supported texts
- Predictable sentences
- Repeated story lines
- Controlled vocabulary books
- Graphic organizers
- Computer software
- Other
- I do not use any of these adaptations or modifications.

26. If you teach reading skills to your students with FMD, are there activities in which students use the words they are learning/have already learned? If yes, please describe.

27. If you teach reading skills to your students with FMD, how do you teach the skills? Which instructional procedures do you use to teach the words? Check all that apply.

- Constant time delay (CTD)
- Progressive time delay (PTD)
- Simultaneous prompting (SP)
- Error correction
- Early Literacy Skills Builder (ELSB)
- Direct Instruction (DI)
- Reading Mastery
- Basal Readers
- Other
- I do not use any of these instructional procedures.

28. Which reading/literacy skills should have the highest priority as students with FMD become adults and make the transition from a school setting to the adult world?

29. What are the sources for your knowledge about teaching reading/literacy skills to students with FMD? Check all that apply.

- University undergraduate courses
- University graduate courses
- Assigned mentor in your school system
- Unofficial mentor
- Other teachers in your school building
- Interactions with families
- Professional development or in-service hours
- Kentucky Teacher Internship Program (K-TIP)
- Special education journals
- General education journals
- Council for Exceptional Children (CEC) website
- Workshops through the Kentucky Special Education Cooperatives (Central Kentucky, Green River Regional, Jefferson County, Kentucky Educational Development Corporation, Kentucky Valley, Northern Kentucky, Ohio Valley, Southeast/Southcentral, or West Kentucky)
- Other

PART 3: You and the Final Questions

Page description:

30. What is your gender/gender identity?

- Woman
- Man
- It's complicated.
- Decline to respond.

31. What is your ethnicity? Check all that apply.

- African American/Black
- Asian/Pacific Islander
- European American/White
- Hispanic/Latino
- Native American/Alaska Native
- Other/Multi-Racial
- Decline to respond

32. Before completing the survey, are there other thoughts you would like to share about literacy and students with FMD? What have I not asked that you think I should know about these issues?

33. If you are willing to participate in a short (15-20 minutes) follow-up telephone interview to discuss more information about reading/literacy skills for students with FMD, please provide your name, email, and phone number in the box. All personal information will be kept strictly confidential and separate from the survey. Interview participants will be determined based on a sample of participants who agree to be interviewed. Thank you for considering this additional contribution to our knowledge base about teachers and reading/literacy skills for students with FMD in the state of Kentucky.

Thank You!

Page description:

Thank you for taking this survey. Your responses are very important and greatly appreciated.

Appendix D

Survey Questions; Designation as Independent or Dependent Variables, and the Measurement Level

Survey Questions	Independent (IV) or Dependent Variable (DV)	Measurement Level: Nominal, Ordinal, Interval, Ratio, or Qualitative
PART 1: You and Your Students		
1. For the students in your classroom, or on your caseload, check all educational labels that describe your students and their primary disability.	IV	Nominal
2. What is the total number of students in your classroom/on your caseload?	IV	Ratio
3. What is the total number of students with FMD in your classroom/on your caseload?	IV	Ratio
4. What is the approximate number of students in your school? If you have more than one school, select your main school.	IV	Nominal
5. Which age level students do you teach? Check all that apply.	IV	Nominal
6. How would you describe the location of your school? If you work in more than one school, select your main school.	IV	Nominal
7. Describe the type of classroom(s) in which you are teaching? Select all that apply.	IV	Nominal
8. How many years have you been a classroom teacher?	IV	Nominal
9. How many years ago did you finish your bachelor's degree?	IV	Nominal
10. Check the teaching certificates you currently hold.	IV	Nominal
11. Are you currently enrolled in an alternate certification program in moderate and severe disabilities?	IV	Nominal

12. Are you currently enrolled in a master's degree program in moderate and severe disabilities?	IV	Nominal
13. Check your highest teaching rank completed.	IV	Nominal
PART 2: Literacy Instruction for Students with FMD and University/College Teacher Education Programs		
14. My university/college program provided an emphasis on teaching literacy skills to students with FMD. Check the answer that best applies.	IV	Interval
15. In my university/college program, I learned how to teach these literacy skills to students with FMD. Check all that apply.	IV	Nominal
16. Provide any additional information you feel is relevant about the literacy skills you learned during your university/college teacher preparation program.	--	Qualitative
17. I think students with FMD can learn phonemic awareness skills. For example, learn to identify spoken words beginning with the same sound, identify the sounds at the beginning and ending of spoken words, and state the individual sounds in a spoken word. Check the answer that best applies.	DV	Interval
18. I think students with FMD can learn phonics. For example, learn the relationship between the written letter and the letter sound in order to recognize familiar words and decode unfamiliar words. Check the answer that best applies.	DV	Interval
19. I think students with FMD can learn to read fluently. For example, learn to read quickly with few mistakes, and read with expression. Check the answer that best applies.	DV	Interval
20. I think students with FMD can develop vocabulary skills.	DV	Interval

For example, learn to use words when speaking, comprehend words spoken to them, understand word concepts, and read written words. Check the answer that best applies.		
21. I think students with FMD can develop word identification skills. For example, learn to read written words through visual recognition. Check the answer that best applies.	DV	Interval
22. I think students with FMD can develop comprehension skills. For example, understand and acquire meaning from oral and written words and texts. Check the answer that best applies.	DV	Interval
23. There are many different types of comprehension. Check the ones you think students with FMD can learn.	DV	Nominal
24. If you teach reading skills to your students with FMD, which categories of words do you teach? Check all that apply.	DV	Nominal
25. Are there adaptations or modifications you use to teach reading skills to your students with FMD? Check all that apply.	DV	Nominal
26. If you teach reading skills to your students with FMD, are there activities in which students use the words they are learning/have learned? If yes, please describe.	--	Qualitative
27. If you teach reading skills to your students with FMD, how do you teach the skills? Which instructional procedures do you use to teach the words? Check all that apply.	IV	Nominal
28. Which literacy skills should have the highest priority as students with FMD become adults and make the transition from the school setting to the	--	Qualitative

adult world?		
29. What are the sources for your knowledge about teaching reading/literacy skills to students with FMD? Check all that apply.	IV	Nominal
PART 3: You and the Final Questions		
30. What is your gender/gender identity?	IV	Nominal
31. What is your ethnicity? Check all that apply.	IV	Nominal
32. Before completing the survey, are there other thoughts you would like to share about literacy and students with FMD? What have I not asked you that you think I should know about these issues?	----	Qualitative
If you are willing to participate in a short (15-20 minutes) follow-up telephone interview to discuss more information about reading/literacy skills for students with FMD, please provide your name, e-mail, and phone number in the box. All personal information will be kept strictly confidential and separate from the survey. Interview participants will be determined based on a sample of participants who agree to be interviewed. Thank you for considering the additional contribution to our knowledge base about teachers and reading/literacy skills for students with FMD in the state of Kentucky.	----	----
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Appendix E

Survey Description E-mail Sent to the Kentucky Directors of Special Education (DOSE)

May 2, 2014

Dear (insert name):

I am a graduate student at the University of Kentucky investigating literacy issues for students with functional mental disabilities. I have received approval from Mr. Johnny Collett, Director, Division of Learning Services, Office of Next Generation Learners, Kentucky Department of Education, to disseminate my survey to teachers in the state of Kentucky.

Would you be willing to send an e-mail to your special education teachers of students with functional mental disabilities that has information about the study and a link to access the survey online? The survey has 32 questions and takes about 15 minutes or less to complete, depending on how much detail the teacher would like to include.

I will send a second e-mail with the teacher information/invitation you could then forward to your special education teachers.

If you would like to see a pdf version of the survey, I would be happy to send it to you.

If you have any questions about the research or questions in general, I can be reached through any of the contact information listed below. My faculty advisor is Dr. Belva Collins and I also have included her contact information.

I would greatly appreciate your help and support in conducting this research. As a former classroom teacher, on my way back to the classroom, I think finding out more information from teachers themselves about their literacy knowledge, beliefs, and expectations, and classroom instruction for student with functional mental disabilities is an area of critical importance.

Regards,

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Appendix F

Survey Information/Invitation E-mail for Teachers

May 2, 2014

Dear Special Education Teachers:

Here is an opportunity to express your thoughts about literacy issues and students with functional mental disabilities. I hope you will consider participating in this survey!

As classroom teachers, we do not always have a voice that is clearly heard or a place at the table when decisions are made. This online survey research proposes to ask you, the classroom teacher, what you think, know, and believe about literacy and students with functional mental disabilities.

As a former classroom teacher, on my way back to the classroom again, I think finding out more information from teachers themselves about their literacy knowledge, beliefs, and expectations, and classroom instruction is an area of critical importance.

I am currently a graduate student at the University of Kentucky and investigating literacy issues for students with functional mental disabilities. I have received approval from Mr. Johnny Collett, Director, Division of Learning Services, Office of Next Generation Learners, Kentucky Department of Education, to disseminate my survey to teachers in the state of Kentucky.

The link to the online survey is at the bottom of the e-mail.

Here is some other important information:

- The survey is completely confidential. There is no personal information collected through participating in the survey.
- The survey has 32 questions and takes about 15 minutes or less to complete, depending on how much detail you would like to include.
- It is entirely your choice whether to participate in the survey.
- There are no known risks or discomfort foreseen through participation.
- If you choose to skip a survey question, you may do so.
- You can go back and forth between questions if you need to (use the Next and Back buttons at the end of each section) and you can go back and change any answers, if you would like to do this.
- There is no compensation for participating in the survey. Your potential benefits are simply making a contribution to our knowledge about special education teachers, literacy issues, and students with functional mental disabilities.
- At the end of the survey there is a request for participation in a follow-up telephone interview. If you choose to offer to participate, all personal information will be kept strictly confidential and completely separate from the survey data. All telephone interview data also will be confidential and results will be presented without any identifying information.
- Given the nature of online surveys, as with anything involving the Internet, the

confidentiality of online survey data while it is still en route over the Internet cannot be absolutely guaranteed but all safeguards will be in place.

- By clicking on the link to the survey and submitting it, you are giving consent to participate.

If you have any questions about the study, please feel free to ask. My contact information, and that of my advisor, is listed below. If you have any complaints, suggestions, or questions about your rights as a research volunteer, you may contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

Thank you for considering this invitation to participate in the survey. I am excited about this research opportunity. I hope you will be, too!

<http://www.surveygizmo.com/s3/1030121/Literacy-and-Students-with-Functional-Mental-Disabilities-in-Kentucky>

Regards,

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Appendix G

Reminder E-mail: Survey Information/Invitation for Teachers

May 29, 2014

Dear Special Education Teachers:

(I know everyone is very busy! If you would like to participate but didn't have time before, the survey about literacy will be open for a few more days. The survey takes about 10 minutes or so to complete. Thanks for considering this invitation. Ann Katherine)

Here is an opportunity to express your thoughts about literacy issues and students with functional mental disabilities. I hope you will consider participating in this survey!

As classroom teachers, we do not always have a voice that is clearly heard or a place at the table when decisions are made. This online survey research proposes to ask you, the classroom teacher, what you think, know, and believe about literacy and students with functional mental disabilities.

As a former classroom teacher, on my way back to the classroom again, I think finding out more information from teachers themselves about their literacy knowledge, beliefs, and expectations, and classroom instruction is an area of critical importance.

I am currently a graduate student at the University of Kentucky and investigating literacy issues for students with functional mental disabilities. I have received approval from Mr. Johnny Collett, Director, Division of Learning Services, Office of Next Generation Learners, Kentucky Department of Education, to disseminate my survey to teachers in the state of Kentucky.

The link to the online survey is at the bottom of the e-mail.

Here is some other important information:

1. The survey is completely confidential. There is no personal information collected through participating in the survey.
2. The survey has 32 questions and takes about 10-15 minutes or less to complete, depending on how much detail you would like to include.
3. It is entirely your choice whether to participate in the survey.
4. There are no known risks or discomfort foreseen through participation.
5. If you choose to skip a survey question, you may do so.
6. You can go back and forth between questions if you need to (use the Next and Back buttons at the end of each section) and you can go back and change any answers, if you would like to do this.
7. There is no compensation for participating in the survey. Your potential benefits are simply making a contribution to our knowledge about special education teachers, literacy issues, and students with functional mental disabilities.

8. At the end of the survey there is a request for participation in a follow-up telephone interview. If you choose to offer to participate, all personal information will be kept strictly confidential and completely separate from the survey data. All telephone interview data also will be confidential and results will be presented without any identifying information.

9. Given the nature of online surveys, as with anything involving the Internet, the confidentiality of online survey data while it is still en route over the Internet cannot be absolutely guaranteed but all safeguards will be in place.

10. By clicking on the link to the survey and submitting it, you are giving consent to participate.

If you have any questions about the study, please feel free to ask. My contact information, and that of my advisor, is listed below. If you have any complaints, suggestions, or questions about your rights as a research volunteer, you may contact the staff in the University of Kentucky Office of Research Integrity at [859-257-9428](tel:859-257-9428) or toll-free at [1-866-400-9428](tel:1-866-400-9428).

Thank you for considering this invitation to participate in the survey. I am excited about this research opportunity. I hope you will be, too!

<http://www.surveygizmo.com/s3/1030121/Literacy-and-Students-with-Functional-Mental-Disabilities-in-Kentucky>

Regards,
Ann Katherine

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Appendix H

Code Descriptions for Teacher Comments in Response to Survey Question 16

Question 16: Provide any additional information you feel is relevant about the literacy skills you learned during your university/college teacher preparation program.

Skills Taught: Response indicated literacy skills (i.e., phonemic awareness, phonics, vocabulary, fluency, and comprehension) were taught in MSID courses. Response may refer to literacy skills in general or to one or more specific literacy areas but indicated that literacy skills for students with MSID were taught.

Skills Not Taught: Response indicated that literacy skills were not taught in any coursework for students with MSID.

Related Content: Response contained information about instruction received that could be related to or used in support of teaching literacy skills. Examples include teaching strategies or data collection or instructional procedures such as constant time delay (CTD), system of least prompts (SLP), or simultaneous prompting (SP).

Other Sources: Response discussed other sources for knowledge about literacy instruction. Examples include elementary education courses or obtaining a teaching certificate in elementary education, being a teacher in a Reading Recovery program, professional development opportunities, and learning from other teachers while in practicum or student teaching or once entering the teaching profession as a classroom teacher.

Appendix I

Code Descriptions for Teacher Comments in Response to Survey Question 26

Question 26: If you teach reading skills to your students with FMD, are there activities in which students use the words they are learning/have already learned? If yes, please describe.

An overall code was used with specific teacher responses categorized in that code and are listed below.

Academic Instruction - ACAD

- Reading words, sentences, paragraphs, books
- Writing words, sentences, paragraphs, books
- Sentences (reading and writing)
- Cause and effect
- Spelling
- Answering questions
- Oral reading (all of the responses that talked about anything to do with reading aloud were categorized as oral reading)
- Matching
- Meanings
- Signs (safety or survival words or signs)
- Vocabulary words
- Sight words/Word identification
- Identification of words or sentence
- Environmental print (general descriptions of words in the school or community environment)

Commercial Programs and Materials - MAT

- Early Literacy Skills Builder (ELSB)
- PCI reading program
- COVE reading program
- Reading Mastery
- Accelerated Reader
- Easy readers
- Unique Learning
- News-2-You
- Learning a-z.com
- EdMark
- Leveled readers
- Great Leaps
- Augmentative and alternative communication (AAC) devices
- Computer
- Boardmaker
- Smart Board
- iPad apps

Core Content - CORE

- Alternate K-Prep
- Core content

Data-Based Instructional Procedures - DATA

- System of least prompts (SLP)

Instructional Strategies - STRAT

- Student word book/bank
- Jeopardy
- Flashcards
- Note-taking
- Typing
- Worksheets
- Stories
- Experienced-based stories
- Social stories
- Word games
- Journals
- Text with pictures
- Repeated story lines
- Art as writing/story starters
- High interest books
- Book writing
- Cut-up sentences
- Unscramble sentences
- Discussion
- Glossary
- CLOZE
- Repetition
- Peer tutors

Literacy Areas by Name (Phonemic Awareness, Phonics, Vocabulary, Fluency, Comprehension) - LIT

- Comprehension
- Fluency (listed both here and in Phases of Learning)

Phases of Learning (Acquisition, Fluency, Maintenance, Generalization) - PLEARN

- Fluency (listed both here and in Literacy Areas)
- Generalization
- Maintenance

Practical Living Instruction - PRACT

- Cooking (all of the responses that talked about reading recipes or cooking activities or food and/or direction words in recipes were categorized as cooking)
- Community-based instruction (CBI)
- Functional activities (general)
- Recreation-leisure activities

Settings - SET

- Work
- Home
- Real-life
- General education classroom
- Specials (Elementary term for art, music, etc.)
- Electives (Middle and high school term for art, music, etc.)

Appendix J

Code Descriptions for Teacher Comments in Response to Survey Question 28

Question 28: Which reading/literacy skills should have the highest priority as students with FMD become adults and make the transition from a school setting to the adult world?

Academic Instruction - ACAD

- Write name
- Vocabulary words
- Phonemic awareness (listed both here and in Literacy)
- Phonics (listed both here and in Literacy)
- Environmental print (community signs, school signs, community words, community information, or any descriptions of words in the school or community environment were all coded as environmental print)
- Survival (survival, survival words, survival signs, safety signs/words, safety words, and safety vocabulary were all coded as survival)
- Decoding
- Reading
- World knowledge
- Current events
- Sight words/Word identification
- High frequency words
- Social stories
- Meanings
- Personal information
- Telling time
- Calendar

Commercial Programs and Materials - MAT

- Direct Instruction
- EdMark
- Dolch
- Computer
- Early Literacy Skills Builder (ELSB)

Instructional Strategies - STRAT

- High interest materials
- Repetition

Literacy Areas by Name (Phonemic Awareness, Phonics, Vocabulary, Fluency, Comprehension) - LIT

- Phonemic awareness (listed both here and in Academic Instruction)
- Phonics (listed both here and in Academic Instruction)
- Fluency (listed both here and in Phases of Learning)
- Comprehension

Practical Living Instruction - PRACT

- Emergency words
- Social words
- Vocational words
- Grocery words
- Functional words
- Cooking
- Social skills
- Social interactions
- Real life
- Daily life
- Life skills
- Product words (food packages and cleaning supplies)
- Leisure
- Functional activities (everyday, basic, and functional were all coded as functional)
- Menus
- Job applications
- Listening
- Communication
- Weather/warnings
- Banking
- Access information
- Instruction manuals

Phases of Learning (Acquisition, Fluency, Maintenance, Generalization) - PLEARN

- Fluency (listed both here and in Literacy)
- Generalization

Settings -SET

- Work
- Home

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Vita

Ann Katherine Griffen

Professional Preparation

Ph.D.	Expected 2017	Special Education, Moderate and Severe Intellectual Disabilities (MSID), University of Kentucky, Lexington, KY.
Certification	2012	Graduate Certificate in Distance Learning, University of Kentucky, Lexington, KY.
Rank I	1998	MSID, University of Kentucky, Lexington, KY.
M. S.	1993	Early Childhood Special Education, University of Kentucky, Lexington, KY.
B. S.	1982	MSID/Elementary Education, University of Kentucky, Lexington, KY. Lifetime Certification: MSID K-12 and Elementary Grades, 1-8.

Professional Experience

2016 - Present	Teacher: Students with MSID, Autism, Visual Impairments, Physical Disabilities, Beaumont Middle School, Fayette County Board of Education, Lexington, KY.
2014 – 2016	Teacher: Students with MSID, Autism, Visual Impairments, Physical Disabilities, Bates Creek Middle School, Fayette County Board of Education, Lexington, KY.
2013 – 2014	Graduate Assistant, U.S. Department of Education Grant: Preparing Alternate Certificate Instructors for Rural Special Services (PAIRSS).
2010 – 2014	Fellowship, Special Education Leadership Program in Applied Behavior Analysis (SELABA) in Distance Teacher Preparation.
2010 - 2013	Graduate Assistant, Institute of Education Sciences (IES) Grant: Evaluating the Efficacy of Enhanced Anchored Instruction for Middle School Students with Learning Disabilities in Math. Project website: http://edsrc.uky.edu/TEAM2/index.html

- 2009 – 2010 Lecturer, Department of Early Childhood, Special Education, and Rehabilitation Counseling, University of Kentucky, Lexington, KY.
- 2004 – 2009 Project Staff/Practicum Supervisor: Reaching Educators with an Alternate Certification for Teachers (REACT), University of Kentucky, Lexington, KY. Grant Co-PIs: John Schuster, Belva Collins.
- 2002 – 2004 Project Editor/Resource Coordinator: Commonwealth Center for Instructional Technology and Learning (CCITL) Project, University of Kentucky, Lexington, KY
Grant Co-PIs: William Berdine, Kristina Krampe. Adjunct Instructor/Practicum Supervisor.
- 2001 – 2002 Project Writer/Resource Coordinator: Engaging Differences Project, University of Kentucky, Lexington, KY Grant Co-PIs: William Berdine, Kristina Krampe. Adjunct Instructor/Practicum Supervisor.
- 1998 - 2001 Personnel Preparation Practicum Supervisor: Training Rural Educators in Kentucky-Collaborative Relationships (TREK-CR), Graduate Students in MSID Program, University of Kentucky, Lexington, KY Grant Co-PIs: Belva Collins, John Schuster. Practicum Supervisor.
- 1985 - 1998 Teacher: Students with MSID, Autism, Deaf, Blind/Visual Impairments, Physical Disabilities, Booker T. Washington Elementary and Tates Creek Elementary, Fayette County Board of Education, Lexington, KY.
- 1985 – 1998 Classroom Supervisor: Undergraduate and Graduate Students
- 1984 - 1985 Teacher: Students with Learning Disabilities, Behavior Disabilities, Harrison Elementary and Lansdowne Elementary, Fayette County Board of Education, Lexington, KY.

Publications: CD

Pierce, L., Pennington, R., Gibson, J., Ault, M. J., **Griffen, A. K.**, & Stenhoff, D. M. (2008). CD instructor manual for *Special education in contemporary society: An introduction to exceptionality*. Thousand Oaks, CA: Sage.

Research Publications

Articles in refereed journals.

Bottge, B., Toland, M., Gassaway, L., Butler, M., Choo, S., **Griffen, A. K.**, & Ma, X. (2015). Impact of Enhanced Anchored Instruction in inclusive math classrooms. *Exceptional Children, 82*(2), 158-175.

Ault, M. J., & **Griffen, A. K.** (2013). Teaching with the system of least prompts: An easy method for monitoring progress. *TEACHING Exceptional Children, 45*(3), 46-53.

Griffen, A. K., Schuster, J. W., & Morse, T. E. (1998). The acquisition of instructive feedback: A comparison of continuous versus intermittent presentation schedules. *Education and Training in Mental Retardation and Developmental Disabilities, 33*, 42-61.

Schuster, J. W., Morse, T. E., **Griffen, A. K.**, & Wolery, T. (1996). Teaching peer reinforcement and grocery words: An investigation of observational learning and instructive feedback. *Journal of Behavioral Education, 6*, 511-533.

Collins, B. C., & **Griffen, A. K.** (1996). Teaching a safe response to product warning labels to students with moderate disabilities. *Education and Treatment of Children, 19*, 30-45.

Schuster, J. W., & **Griffen, A. K.** (1993). Teaching a chained task using a simultaneous prompting procedure. *Journal of Behavioral Education, 3*, 299-316.

Griffen, A. K., Wolery, M., & Schuster, J. W. (1992). Triadic instruction of chained food preparation responses: Acquisition and observational learning. *Journal of Applied Behavior Analysis, 25*, 247-267.

Schuster, J. W., **Griffen, A. K.**, & Wolery, M. (1992). Comparison of simultaneous prompting and constant time delay in teaching sight words to elementary students with moderate mental retardation. *Journal of Behavioral Education, 2*, 305-325.

Wolery, M., Ault, M. J., Gast, D. L., Doyle, P. M., & **Griffen, A. K.** (1992). Choral and individual responding during small group instruction: Identification of interactional effects. *Education and Treatment of Children, 15*, 289-309.

Wolery, M., Ault, M. J., Gast, D. L., Doyle, P. M., & **Griffen, A. K.** (1991). Teaching chained tasks in dyads: Acquisition of target and observational behaviors. *Journal of Special Education, 25*, 198-220.

Schuster, J. W., & **Griffen, A. K.** (1991). Using constant time delay to teach recipe following. *Education and Training in Mental Retardation, 26*, 411-419.

Schuster, J. W., & **Griffen, A. K.** (1990). Using time delay with task analyses. *Teaching Exceptional Children*, 22(4), 49-54.

Wolery, M., Ault, M. J., Gast, D. L., Doyle, P. M., & **Griffen, A. K.** (1990). Comparison of constant time delay and the system of least prompts in teaching chained tasks. *Education and Training in Mental Retardation*, 9, 243-257.

Presentations

National professional presentations.

Outcomes from an International Partnership in Distance Education, Presentation with Belva Collins and Constance Baird, American Council on Rural Special Education (ACRES) National Conference, Tucson, AZ, March 2014.

Increasing Collaboration between General and Special Education During Personnel Preparation, Presentation with Belva Collins and Melinda Ault, Teacher Education Division (TED) Conference, Orlando, FL, November 2013.

Blending Instructional Strategies to Improve the Math Skills of Middle School Students, Presentation with Brian Bottge, Mark Butler, and Linda Gassaway, Council for Exceptional Children (CEC) Conference, San Antonio, TX, April 2013.

Bridging the Gap Between Research and practice in Rural Classrooms, Presentation with Belva Collins, American Council on Rural Special Education (ACRES) National Conference, Orlando, FL, March 2013.

A Teacher's Toolbox of Knowledge: System of Least Prompts (SLP) Instructional Procedure, Presentation with Melinda Ault and Robert Pennington, Ohio Center for Autism and Low Incidence Conference (Ocalicon), Columbus, OH. November 2012.

On Your Path to Excellence in Teaching: Constant Time Delay (CTD) Instructional Procedure, Presentation with Melinda Ault and Robert Pennington, Ohio Center for Autism and Low Incidence Conference (Ocalicon), Columbus, OH. November 2012.

Bridging the Gap Between Research and Practice for Classroom Teachers, Presentation with Belva Collins, Teacher Education Division (TED) Conference, Grand Rapids, MI, November 2012.

Bridging the Gap Between Research and Practice, Presentation with Belva Collins and Victoria Knight, Office of Special Education Programs (OSEP) Project Director's Meeting, Washington, D. C., July 2012.

The Good, the Bad, and the Ugly: Issues in Teaching Reading Skills to Students with Moderate to Severe Cognitive Disabilities, Presentation, American Council on Rural Special Education (ACRES) National Conference, Albuquerque, NM, March 2011.

Preparing Teachers to Use Research-Based Practices with Students with Significant Cognitive Disabilities. Poster session with Belva Collins, Karen Hager, and Julie Stewart, The Association for Persons with Severe Handicaps (TASH) Conference, Denver, CO, December 2010.

The Use of Writing Guidelines for Delivering Feedback to University Students, Poster session with Belva Collins and John Schuster, Office of Special Education Programs (OSEP) Project Director's Meeting, Washington, D. C., July 2009.

Writing Skills - University Students - Delivering Feedback, Presentation, American Council on Rural Special Education (ACRES) National Conference, Denver, CO, March 2009.

Evidence-Based Practices in Educational Intervention for Students with Autism Spectrum Disorders, Presentation with Melinda Ault, Amy Berrong, Channon Horn, Jason Gibson, and Robert Pennington, American Council on Rural Special Education (ACRES) National Conference, Denver, CO, March 2009.

Using Simultaneous Prompting and Computer-Assisted Instruction to Teach Storywriting to Children with Autism, Poster session with Robert Pennington and Jason Gibson, International Conference of the Association for Applied Behavior Analysis (ABA), Phoenix, AZ, May 2009.

Teaching Peer Reinforcement and Grocery Words: Acquisition of Non-Target Stimuli and Observational Learning, Poster session with Robert Pennington and Don Stenhoff, International Conference of the Association for Applied Behavior Analysis (ABA), Phoenix, AZ, May 2009.

Reaching Educators with an Alternate Certification for Teachers (REACT), Poster session with Belva Collins, Office of Special Education Programs (OSEP) Project Director's Meeting, Washington, D. C., July 2006.

Establishing and Fostering Collaborative Relationships When Involved in Distance Education, Presentation with John Schuster, Belva Collins, and Meada Hall, American Council for Rural Special Education (ACRES) National Conference, Alexandria, VA, March 2000.

Ten Years of Distance Learning: Changing to Meet the Geographical, Institutional, and Student Characteristics, Presentation with John Schuster, Belva Collins, and Meada Hall. American Council for Rural Special Education (ACRES) National Conference, Albuquerque, NM, March 1999.

The Acquisition of Non-Target Information: A Comparison of Continuous Versus Intermittent Presentation Schedules, Poster session with John Schuster, International Conference of the Association for Applied Behavior Analysis (ABA), Atlanta, GA, May 1994.

Comparison of Active Versus Inactive Error Correction When Teaching Students with Moderate Mental Retardation, Poster session with John Schuster and Melinda Jones

Ault, International Conference of the Association for Applied Behavior Analysis (ABA), Atlanta, GA, May 1994.

Other professional presentations.

Enhanced Anchored Instruction (EAI): Improving Math Skills of Students, Roundtable discussion session with Mark Butler and Sam Choo, University of Kentucky, College of Education, Innovation Summit, November 2012, Lexington, KY.

Sight Words: Here, There, and Everywhere, Presentation with Channon Horn, Kentucky Council for Exceptional Children State Conference, November 2010, Louisville, KY.

Applied Behavior Analysis: Making It Happen in My Classroom, Presentation with Robert Pennington, Kentucky Council for Exceptional Children State Conference, November 2008, Louisville, KY.

Distance Education in Special Education Graduate Programs: Moderate and Severe Disabilities and Early Childhood Special Education, Presentation with Sarah Hawkins, National Council for Accreditation of Teacher Education (NCATE), University of Kentucky, Lexington, KY, November, 2007.

It's Not Enough To Just Want Something – What Skill? What Strategy? Presentation with Melinda Jones Ault, Jefferson County Public Schools Low Incidence Institute for Teachers, Louisville, KY, June 2003.

The Answers are NOT in the Crystal Ball: Analyzing Data for Programmatic Changes, Presentation with Melinda Jones Ault, Jefferson County Public Schools Low Incidence Institute for Teachers, Louisville, KY, June 2003.

Commonwealth Center for Instructional Technology and Learning: A Statewide Web-Based System, Presentation with Kristina Krampe and Linda Gassaway, Kentucky Teaching and Learning Conference, Louisville, KY, March 2003.

Obtaining Functional Materials for Your Classroom, Presentation with Melinda Jones Ault and Rachel Branham, Kentucky Council for Exceptional Children State Conference, Lexington, KY, April 1994.

Data-Based Instructional Procedures, Presentation with John Schuster, SPLASH Training for teachers of students with MSID, State Department of Education, Frankfort, KY. Fall 1993 and Spring 1994.

Behavior Management Strategies for Home and School, Presentation with Stacie Meyer, Special Education Resource Center, Fayette County Schools, Lexington, KY, April 1991.

Research Results: Implications for the Classroom, Presentation with John Schuster, Fayette County Teacher In-service, Lexington, KY, August 1990.

Developing a Functional Curriculum for Elementary Students with Moderate Mental Disabilities, Presentation with Stacie Meyer, Kentucky Council for Exceptional Children State Conference, Louisville, KY, November 1989.

Using Time Delay to Teach Chained Tasks, Presentation with John Schuster, Kentucky Council for Exceptional Children State Conference, Lexington, KY, March 1989.

Awards

Research Proposal Award, presented at the American Council for Rural Special Education (ACRES) National Conference, Tucson, AZ, March 2014.

Exemplary Program Award, *Preparing Alternate Certificate Instructors for Rural Special Services (PAIRSS)*, presented at the American Council for Rural Special Education (ACRES) National Conference, Tucson, AZ, March 2014.

Exemplary Program Award, *Training Rural Educators in Kentucky-Collaborative Relationships (TREK-CR)* presented at the American Council for Rural Special Education (ACRES) National Conference, San Diego, CA, March 2001.

Service

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|-------------|---|
| 2014 | Member, EDSRC Chair Search Committee, University of Kentucky, April-May, Lexington, KY. |
| 2010 – 2011 | Member, MSID Faculty Search Committee, University of Kentucky, Lexington, KY. |
| 2006 – 2007 | Member, MSID Faculty Search Committee, University of Kentucky, Lexington, KY. |
| 2001 - 2003 | Member, Nominations and Elections Committee, American Council on Rural Special Education (ACRES). |
| 2000 - 2014 | Member, MSID Program Faculty, University of Kentucky, Lexington, KY. |