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Using E-Readers to Improve Reading for Students with Mild Disabilities

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Abstract

Improving reading comprehension and fluency in students with mild disabilities has long been a challenge for educators. Technology has provided a host of new possibilities for working with students with mild disabilities. This study incorporated a mixed method to investigate the potential of using E-Readers as an instructional tool. Three features of E-Readers were thought to be of particular benefit to students with mild disabilities: (a) the ability to change the font, (b) the text to speech feature, and (c) the dictionary feature where students highlight a word and the definition pops up.

Using E-Readers to Improve Reading in Elementary and Middle School Students with Learning Disabilities

The importance of reading in everyday life cannot be underestimated. The ability to read determines who we are and is the foundation for the acquisition of knowledge that will contribute to our future success. Literacy skills provide individuals with the “ability to obtain information... with which to make decisions and choices, alter the environment, and gain pleasure” (Alberto, Fredrick, Hughes, McIntosh, and Cihak, 2007).

Students today live interchangeably in a traditional text and digital media environment. Both the student and teacher are required to understand and move seamlessly between competencies with technology, connections with the social environment and integration with the literacy environment within the schools as well as in their personal life. In order to meet the needs of a diverse student population and help students achieve the highest academic standards educators must increasingly look to the digital offerings as well as the standard printed word to ensure that all students are being well educated. The same material in digital form offers many options for

students with disabilities. Many e-books employ multimodal features- such as video, audio and hyperlinks- as well as interactive tools (Larson, 2009). These tools encourage learning to take forms that accommodate a variety of readers who may find text-to-speech, highlighting, font changes, text size, dictionary features and audio recording of comments to enhance their personal reading style.

Technology and Literacy Education

Technology is changing the way educators think about education and literacy. “Varied digital technologies provide teachers of any content area with numerous approaches to integrating the skills of the 21st century” (Pilgrim, Bledsoe, Riley, 2012). One tool to integrate technology in the school environment is the eReader. EReaders have the potential to unveil an array of new teaching and learning possibilities as traditional and new literacy skills are integrated in meaningful ways (Larson, 2010). “However, as with any technological innovation, it is important to look beyond the ‘gee whiz’ technology and examine mobile devices within the context of best practices in Assistive Technology (AT) assessment and implementation” (Newton and Dell, 2011).

For five hundred years, ink-on-paper has defined the business of publishing. It no longer does. We are witnessing and participating in a radical transformation of publishing and the changes taking place are having a profound impact on everybody (Roxburgh, 2012). Because of digital technology, books are available to anyone, anywhere, anytime. EBook popularity in both schools and personal use has not waned. Amazon CEO Jeff Bezos reported that millions own Kindles, which are now relatively affordable at \$149. Roxburgh describes the Amazon Kindle as a “dedicated reading device, providing a single platform accessible across multiple devices and secure, instant access to the world’s largest catalog of titles.”(2012). Due to the unique features of the digital reading devices and the vast array of reading material available, the authors felt that the digital reading devices or eReaders for learning disabled students would be a unique venue to enhance reading improvement. Readers are developing a new relationship with their books. “The eReader is a device almost entirely dedicated to a single function, that of reading long-form text. EReaders such as the Kindle and the Nook do this job very, very well and deserve their own attention, separate from their do anything tablet brethren.” (Griffey, 2012).

EReaders are portable devices that are capable of reading eBooks with low power and high-resolution designed to display versions of paper-based books. In 1998, Nuvo Media released the first hand-held eBook reader, The Rocket, which allowed eBooks to be downloaded from a computer with the use of a cable. Eventually Microsoft and Amazon decided to join forces in 2000 to sell eReaders (Herther, 2008). Subsequently, Sony Reader released their version of a portable e-book device in 2006. Then, in 2007, Amazon released their product, the Kindle, which can be a stand-alone reader or work with computers. This specific product (first generation Kindle) weighed 10.3 ounces and measured 5.3” x 7.5” x 0.7”. With each new generation of eReader the memory/storage, battery/power, user controls, screen resolution and navigation have increased.

After reviewing the Nook, iPad, Sony and the Kindle the authors chose the Kindle for use in the classroom since it has no additional connection fees, is competitively priced, has a built in dictionary and adjustable font size and the Text-to-Speech (TTS) feature, which can enhance

literacy learning for learning disabled students. According to Griffey (2012) “The big three that I focused on in 2010 are still the industry leaders: Amazon, Barnes and Noble, and Sony. with Amazon and the various kindle models being the leaders among the general public for eReaders adoption.”

Reading Comprehension and Fluency

The purpose of this article is to address the needs of students with mild disabilities in literacy, specifically, comprehension and fluency. The use of computer-aided instruction has been investigated for quite some time (Horney & Anderson-Inman, 1999; Horton, Lovitt, Givens, & Nelson, 1989; Rhodes and Milby, 2007; Smith and Okolo, 2010). However, research on the effects of using eReaders to enhance comprehension and fluency for learning disabled middle school readers is not prevalent. McClanahan, Williams, Kennedy and Tate (2012) report that they were only able to locate one study by Larson (2010), which reported students using an eReader, specifically the Kindle to read eBooks in the classroom. Larson’s study resulted in deeper comprehension of text but did not involve struggling readers. Studies conducted to determine the reader’s value in helping those with special needs, have traditionally used eReaders displayed on a computer monitor instead of an eReader or tablet computer (Connell, Bayliss, Farmer, 2012).

Kindles have many features that make them attractive to readers. Kindles have a clear and crisp font with high contrast, which is easy for students to read. The text is resizable and is presented on an e-ink screen rather than an LCD screen. Studies have shown that the e-ink screen allows readers to be able to read the device in bright light and sunlight, unlike devices that have LCD screens (Coyle, 2008). Another important feature of the Kindles is the text –to-speech function which is helpful for all readers, but especially for individuals who are dyslexic. One study by Elkind (1998) used the Text-to-Speech software offered by Kindle with middle school students with dyslexia and found that reading comprehension increased in most of the students using the software. As a result the authors asked the question “Would the incorporation of the Kindle’s TTS and other functionalities into specifically designed instructional techniques aimed at specific literacy needs, enhance and improve reading for the learning disabled reader in the areas of fluency and comprehension?” Christopher Harris (2009) proclaimed, “The text-to-speech feature of the new Kindle alone would make the device worth its weight in gold for students who need some added support or motivation for reading.” Yes, digital has its advantages. Multiple books can be read on the same device, adjustable font size, highlighting and note taking customize the reading experience for anyone who chooses to dip their toe into the digital waters, specifically the Kindle eBook (Jonker, 2012).

Reading is a complex and multi-step process of problem solving in which the reader interprets the text rather than just reading the words and sentences on the page (Schoenbach, Greenlead, Cziko, & Hurwitz, 2000). Reading can be defined as rapid, accurate word recognition, and meaning construction. Readers must make connections with words and ideas on a page from prior knowledge or experiences in life to understand the meaning of a passage. Due to the complicated reading process, many readers with disabilities stumble over unfamiliar words. Readers need to learn how to monitor their own understanding of the text by using a variety of strategies to help guide them in the process (Schoenbach et.al. 2000). In order for students to become effective readers they must think beyond the text and draw on personal experiences and

knowledge to make sense of the material they are reading. Students who struggle with reading generally include those with special learning needs, English language learners, standard American English learners, and older students who are disenchanted with learning and have difficulty learning how to translate between printed and oral language (Ambe, 2007). Struggling readers tend to have low achievement, negative emotions and attitudes, are unmotivated and display learned helplessness (Hearn, & McCaslin, 2010). They have shown that some students tend to excel in reading when they have the opportunity to see the words as well as hear them while students with learning disabilities have difficulty decoding print; however, they do not have trouble with oral language. According to Higgins and Raskind (2005), optical character recognition systems that convert printed text to the spoken word might enhance reading comprehension.

Students who are readers with disabilities i.e. struggling readers need to be introduced to new material at a realistic rate with adequate practice time for each skill or strategy. Students who are struggling readers need highly explicit instruction where they are highly engaged and interactive throughout the reading lesson. Furthermore, struggling readers need immediate feedback and help monitoring and correcting their reading errors and misconceptions all of which the Kindle provides for them through its' TTS features. "An integrated eReading support system provides physical, sensory and cognitive support to learners." (Ko, Chiang, Lin, Chen, 2011). Students with disabilities often encounter many difficulties in reading. Struggling readers with the help of an eReader now have choices with instant access to a large number of reading possibilities offered on their reading level without peers knowing what level that may be. Today's students are very familiar with technology and are used to interacting with a variety of devices. They welcome the opportunity to interact digitally with text through the eReader, as they offer the convenience of being able to read anytime, anywhere thus, making assignments easier to accomplish. Learning is no longer one-dimensional but rather offers a variety of methods that enhance learning for the struggling reader. They can access graphs, charts, vocabulary definitions, highlight, change font, listen to the text and take notes as they sit comfortably in a chair or on the floor. One teacher reported that his students quickly experienced success with his Kindle and because the font size was set larger the students appeared to be reading more pages giving them a level of confidence that they had not experienced before.

The use of technology as an instructional tool has many implications for schools and students who struggle with reading. School districts have recently been faced with dramatic budget cuts along with an increase in demand for technology updates in their curriculum. Is the cost of providing updates in technology such as the Kindle an effective use of school district funds?

Research-based practices are now required when considering curriculum innovations. Students with disabilities typically have reading goals on their Individualized Education Plan (IEP). Since there is limited research on the use of cost effective Kindles as an instructional tool, we wanted to investigate the educational value of the Kindle for students with disabilities. We felt that the Kindle could:

1. Improve reading comprehension in students with mild disabilities.
2. Improve fluency in students with mild disabilities.
3. Clarify the benefits of using Kindle's as an instructional tool for students with disabilities.

Method

Subjects

The Kindle Project was conducted with the cooperation of six special education teachers, six student teachers placed in the district and one graduate student. Sixty 5th - 8th grade learning support students with an Individualized Education Plan (IEP) were selected for this project from a rural school district in Western Pennsylvania. Fifth and sixth graders were housed in a K-6 elementary building and the seventh and eighth graders attended a middle school. All students had reading goals and objectives on their IEP (Individualized Education Plan). Thirty of the students were randomly selected to use the Kindle, while the remaining thirty students were chosen to participate in the control group.

Method and Procedure

Qualitative data was collected for this project. The school district used AIMSweb (Pearson, 2011) to monitor the progress of all students; this data was used to place students in their instructional reading level.

All students read for 30 minutes a day 3 times a week for 12 weeks for a total of 1080 minutes. Reading material included reading content normally read in each of the grade levels. The control group read the material in hard cover books while the experimental group read the same books on the Kindle.

Throughout the project a weekly journal report by the student teachers concerning student use and progress was completed. Student teachers were asked to: (a) assist with Kindle instruction, (b) monitor students during the reading time, and (c) help with technology problems associated with the Kindle. We were interested in finding out the perceptions of student teachers with regard to the Kindle project. Semi-structured interviews were conducted and recorded with students, teachers and student teachers at the conclusion of the project.

In the semi-structured interviews used for the qualitative study, the following questions were used to determine the benefits of the Kindle as an instructional tool:

1. Tell me about your experience with the Kindles?
2. Compare reading with the Kindles to reading with a book?
3. What do you like the best about the Kindle?
4. What did you not like about the Kindle?
5. Do you feel the Kindle helped with reading? How so?
6. Which features of the Kindle did you receive instruction in?
7. How much time did you spend using the tools that you listed in the features for the Kindle?
8. Did you read more with the Kindle than you usually do without one?
9. Did you go online to buy and download books?
10. Technically, was it challenging to work with the Kindle?

Results

The test results for the 60 students with learning disabilities over twelve weeks were obtained from the AIMSweb (Pearson 2011) Data indicated that fluency in sixth, seventh, and eighth grade improved while fifth grade did not show any improvement.

Results from the AIMSweb data indicated that reading comprehension improved for fifth and sixth graders but no improvement in comprehension was noted for seventh and eighth graders over the twelve week period.



Student Teachers working with students who used Kindles.

Qualitative Results

Student, Teacher, and Student Teacher Interviews

Journal keeping for experience sharing and semi-structured interviews for sharing follow-up question and answers were used in this project. Semi-structured interviews were conducted to identify emerging themes about the perspectives of the students, teachers and student teachers during and after the completion of the project. The information from the interviews was recorded, transcribed and reviewed. The journal reports and interviews were an essential source of information that provided insight concerning human perceptions and interactions. The interviews were done to assess the Kindle as an instructional tool.

Students

All students responded to the questions on the questionnaire listed previously in this article. The questionnaire was completed in the students' classroom. Students were informed about the purpose of the project before answering the questions.

Student Teachers

Student teachers were interviewed at a day and time that coursework at the College was scheduled. All interviews were typed verbatim by a graduate student. Student teachers were reminded of the purpose of the project and answered all questions.

Teachers

All teachers were interviewed at a day and time convenient for each teacher. All six of the participating teachers were certified in special education and worked with the students in the project who were in grades five through eight. All interviews took approximately 30 minutes and were conducted in a classroom of the school during a free time for the teacher.

The authors feel that the information obtained in this part of the project had particular significance for future use of the Kindle with struggling readers. Inter-rater reliability was used to determine themes and to provide organizational framework. Once the chunks were identified the information gathered was put into meaningful themes.

Themes

Five themes emerged from the semi-structured interviews of the students, student teachers, and teachers: (a) experience, (b) settings/structures, (c) features, (d) motivation, and (e) technology

Experience

Students

Generally students in the experimental group had no previous experience with a Kindle. Students using the Kindles were provided instruction in how to use the (a) speech to text feature, (b) how to use the dictionary, (c) how to increase the font or the text, and of course (d) how to turn it on and off and advance to the next page.

Having been introduced to the device through the project they liked it as a gadget, "It's a very nice portable item" and they liked reading from it "I liked it and kept reading it every day". Some students discussed additional reading at home with the device as well as enjoying multiple books they liked on the device. One of the students was very reserved towards the idea of reading with the Kindle "I hated the idea of the Kindle until we put books on it which I liked and then I loved it".

The interviews suggest students may need more time with instruction and more time to get familiar with all of the features. One student reported, "I got scared when it wouldn't turn on. Once I started using it, it wasn't confusing anymore".

Student Teachers

The student teachers reported that their experiences with the Kindle were positive since this technology appealed to the students. The student teachers felt they still liked to read with a book but, the elementary and middle school students were inclined to find the Kindle more appealing for reading.

Teachers

Generally teachers involved with the Kindle Project had no previous experience with a Kindle. Teachers were given the Kindles a week prior to the start of the study and would have preferred additional time to “play” with the Kindles. The lack of prior experience by the teachers may have led to frustration when mechanical problems surfaced.



Settings and Structures

Students

The students reported that they liked the “gadget” aspect of the Kindle “that you can take it anywhere such as a park or something”, the fact that a gadget can hold a number of different books “all the possible books you can get and that it had a computer and book all in one”.

Playing with buttons is apparently an appealing aspect to a fifth grader “I liked how when you would make it speak, you could press the spacebar to make it pause”. One of the students loaded music onto the Kindle and listened to it while reading, “I liked the music that I could put on my Kindle”.

Student Teachers

The student teachers were responsible for overseeing the use of the Kindles and did not feel that the setting or the structure was particularly an issue. They were placed in these settings for their student teaching and felt that the project enhanced their resume and ability to obtain a teaching job.

Teachers

Fifth and sixth grade teachers varied in the amount of time spent providing instruction to use the Kindle features. Some of the fifth and sixth grade students received 45 minutes of instruction and others received up to three days of instruction on how to use the Kindle. Seventh and eighth grade teachers also reported a variation in the amount of time spent teaching students with disabilities the Kindle features. Seventh and eighth grade students received one to two class periods of instruction on how to use the Kindle. Generally, teachers indicated more instructional time was needed. It was reported that often times Middle School students do not like to ask questions if they don't understand.

Fifth and sixth grade teachers used the RTI (Response to Intervention) designated time (first 30 minutes of each school day) to have students with disabilities involved in the Kindle project. Students with disabilities involved in the project read for a minimum of 30 minutes three times a week. Grade seven and eight assigned study hall times for students with disabilities in the Kindle Project to read for 30 minutes three times a week.

The middle school setting was problematic. Students were supposed to read for thirty minutes during their study hall; too often students worked on homework assignments and "saved" the Kindle reading for last. We found students frequently did not read for 30 minutes three times a week. Teachers were not emphatic about making sure the reading time was part of the study hall.

Features

Students

Two features named most often by the students were the text-to-speech (t2s) and the dictionary. Other features of the Kindle that were named were the bookmarking and clipping features. The t2s feature had comments such as "It can read to you, too", "It scared me and sounded like a robot, but I still liked how you could have the book read to you".

Students mentioned several advantages to the Kindle such as the ability to have hundreds of books on the device and the ability to download books at any time. They also liked being able to manipulate the font size and thought the text-to-speech feature was advantageous for students with dyslexia.

Most of the students stated they really liked the features of the Kindles. Several weaknesses were mentioned: (a) no backlight, (b) the monotone voice on the text-to-speech feature, (c) the black and white screen, and (d) the Kindle needed to be charged. A student said, "Didn't like that it was boring and black and white".

Features often mentioned during the interviews included: (a) ability to download books they don't normally have access to, (b) inability to download some desired books, and (c) books are less expensive.

With regard to the text-to-speech (t2s) feature a student mentioned, "After a while I became bored with it and I barely used it anymore". Another student mentioned his learning preference; "I liked reading the Kindle better because it could read to you, and I can understand more when people read to me".

Several students referred to the search feature as being unique..."[in] a Kindle you can do stuff like type and look up words" and "If you do not know the definition of a word you can look it up and it will read to you".

Student Teachers

The student teachers reported that the most used feature was the t2s which did use a great deal of battery life. The other features that they described to be used the most were the font size and the dictionary and bookmark features cited by both the teachers and the students. They noted that the students had difficulty remembering the process for accessing the features. The student teachers felt that continued use and possibly a process list for access to important features would help the students remember the process.

Teachers

Teachers mentioned several advantages to the Kindle such as the ability to have hundreds of books on the device and the ability to download books at any time. They also liked being able to manipulate the font size and thought the text-to-speech feature was advantageous for students with dyslexia. All teachers thought the technology enhanced learning and was motivational.

Teachers indicated that (a) text-to-speech (t2s), (b) dictionary, and (c) bookmarks were taught to the students. Some students with disabilities required one on one instruction.

Teachers reported several mechanical problems with the Kindle such as (a) the Kindle would often shut off or not turn on, in fact several Kindles had to be replaced and (b) the tinny sound of the voice on the text-to speech was robotic and hard to follow. Other issues mentioned were the inability to find and download books that were being used in the classroom and the lack of color.

Most of the teachers downloaded books or had the student teachers download books. Several teachers downloaded a whole series such as Nancy Drew or The Magic Tree House books.

The teachers discussed the special advantages to the Kindle such as the ability to have hundreds of books on the device and the ability to download books at any time. They also liked being able to manipulate the font size and thought the t2s, dictionary and bookmarks as the primary features in use. Teachers reported several mechanical problems with the Kindle such as the tinny sound of the voice on the t2s were robotic and hard to follow.



Motivation

Students

Some of the students reported they felt the reading with the Kindle improved their reading. One generally felt his reading improved "...it's the only thing that really helped me" while others were more specific "It helped me with my fluency". "My fluency, I think, is faster," or "It helped me pronounce words because I hear the guy say it". On the other hand some of them did not feel that the Kindle helped their reading "No not really, I was already a great reader".

One student remarked, "I took Accelerated Reader tests when I read the books and I didn't pass. Now since I've been taking the Accelerated Reader tests and using the Kindle, I am getting better scores". Another student remarked, "Yeah, because when my Kindle was broken, I had to read normal books, and I could read them faster than I used to". Several of the students felt they were able to read faster and that their comprehension had improved due to their use of the dictionary feature.

Student Teachers

Four of the student teachers reported the students were reading more than they had in the past; they requested additional books and read in their free time.

Teachers

The majority of the teachers reported that students with disabilities read more with Kindles. Because of the project, three of the students have purchased Kindles for personal use. Teachers reported several indicators that students were able to comprehend the reading.

1. Students were reading more for pleasure.
2. Students were engaged in conversations with teachers about the book, this conversation often stimulated other students to read the book being discussed.
3. Teachers believed that students with dyslexia benefitted the most because of the text-to-speech feature of the Kindle.

The novelty of using technology to read was a motivation for students. Students responded well to features that allowed them to read vertically or horizontally. Teachers reported about half of the students liked the text-to-speech feature and other students did not like the robotic tone of the voice. The dictionary feature permitted students to highlight a word and see the definition right away. This feature was widely used.

Teachers also felt the Kindle helped their students reading ability. One student read 10 chapter books during the study and prior to the study had not completed any chapter books in class. The Accelerated Reader scores indicated the student comprehended the reading material and passed each one with 70% or higher. Another teacher reported a student was asked a vocabulary word from a new novel they were reading in class. He stated the definition of the word and was asked how he knew what it meant. He said he came across the word while using the Kindle and looked it up.

A teacher reported one middle school student with disabilities liked the idea of carrying the Kindle around as he changed classes; perhaps this was an unintended benefit of the Kindle project, the ability to boost self-esteem!

The majority of teachers involved in the study reported students with disabilities read more with the Kindle. A seventh grade teacher reported when a mechanical issue popped up a student became frustrated and stopped using the Kindle. However, teachers felt that students who were readers read more because of the study; three students have purchased Kindles for personal use.

Several indicators that students were able to comprehend the reading were revealed in the teacher interviews. Students were reading more for pleasure. Students engaged in conversations with teachers about the book, this conversation often stimulated other students to pull the book off the shelf. Teachers believed students with dyslexia benefitted the most because of the text-to-speech feature of the Kindle.

Technology

Students

It seems that technically the Kindle did not challenge the students “it was easy for me; I found it easy; easy to learn; never a problem with technology.” Many of them did not find it challenging to learn the technology but were frustrated with any malfunctions such as freezing and loss of

use. At the beginning of the project several devices had to be returned to the company for replacement. For some of the students, handling the Kindle was confusing at first but eventually all of them got the hang of it and said that “Once I started using it, it was not confusing anymore,” or “At first a little bit, but after the third day using it I was able to fly through it without any problems.”

Once students became familiar with how to use the Kindle, they typically found the technology easy to navigate. One student responded, “Fun and a good reading.” “The Kindles I think were great to read with if you don’t like reading with books because you don’t get paper cuts.” Another student commented, “Sometimes my Kindle had issues, but I liked it a lot. It helps me read better.” Students reported frustration with malfunctioning Kindles, “The battery dying is the only technology feature that was messed up” and “How many times it would freeze, and how you would try to charge it and it would stay on the charging screen and how it would take forever to turn on.”

One of the middle school students had a Kindle that continued to take the student back to the beginning of the book and lost her page number. The student was so frustrated; she refused to use the Kindle for over a month after it was repaired.

Student Teachers

The student teachers reported that they did not have trouble learning how to use the Kindle, but were still interested in reading with a book rather than the Kindle. They felt the students however, really liked the technology of using the Kindle for reading.

Teachers

All of the teachers involved in the study felt the Kindle was a valuable tool for struggling readers. Teachers indicated that more training prior to the start of the project would have been helpful and may have avoided many of the mechanical issues with the Kindle. An interesting point was that one of the teachers who did not have any mechanical issues indicated he had read the entire manual provided to the teachers with the device prior to beginning his work with the Kindle!

In conclusion, the authors felt that even though the quantitative results showed marginal growth in fluency and comprehension over the twelve weeks of the project, the qualitative results indicated there was promise in engaging students with the Kindle to improve comprehension and fluency over time. The additional use of the text-to-speech, dictionary, and time spent reading should over time improve struggling reader’s chances to be able to participate more fully in the academic, literacy setting.

Student Comments

Positive Comments

"I liked it and kept reading it every day"

"It scared me and sounded like a robot, but I still liked how you could have the book read to you"

"[in] a Kindle you can do stuff like type and look up words"

"It helped me pronounce words because I hear the guy say it"

". .since I've been taking the Accelerated Reader tests and using the Kindle, I am getting better scores"

Negative Comments

"Didn't like that it was boring and black and white"

"After awhile I became bored with it and I barely used it anymore"

"It didn't help me, I was already a great reader"

Implications for the Future

"A reader must advance from word recognition skills to academic learning and then to the social and cultural interpretations of texts" (Palumbo and Sanacore, 2009). As we work with readers with learning disabilities, professionals strive to find a tool that will enhance student understanding of the material. Ultimately a transfer of enhanced learning to academic subjects will benefit learners.

Students' personal life may be the most difficult challenge that professionals have in teaching reading to struggling readers. According to Maslow, when an individual does not have their basic needs met, it is difficult to learn.

Limitations

Several implications for improving this Kindle Project and enhancing student learning should be considered.

1. Start small and work with only one educational level of special education students. This means you work primarily with the elementary students, or middle school students. If you attempt to work across the above levels when introducing the Kindle, details that work for one educational level will not work well for another level. Naturally, reading instruction is delivered differently in the elementary school than in the middle school. Schedule variations such as start and dismissal times, lunch, and study hall or designated RTI time all had an impact on how the project was delivered at each level. We found using the Kindle with multiple grade levels across educational levels created some unforeseen problems.
2. Use professional development to introduce the teachers to the use and potential of the Kindle in the classroom. Important feedback from the teachers of this project indicated they wanted more professional development with the Kindle. Many would have liked their own Kindle for classroom use as well.
3. The freedom of choice and enthusiasm for the technology is contagious. The buy-in to the importance of the technology use in the classroom is paramount to program success.
4. The introduction of Kindles in the classroom works best when there is a designated lead that owns the project and has the authority as well as the responsibility to follow through on the project. There should be a long term roll out plan agreed to by all involved. With a training strategy in place and related supplies in the classroom before the students receive their Kindles.
5. Have lots of Kindle availability. Have enough Kindles for all who want to use them or develop a rotation system for everyone to get a chance to use them.

We endorse the Kindle as an instructional tool. This project demonstrated the benefits of Kindle use and several cautions for the improvement of comprehension and fluency for the student with mild disabilities. However, for financial and practical reasons we acknowledge the importance of print chapter books in the classroom.

Kindles help special education students soar beyond their expectations, bring excitement to learning and transfer new found skills to academic learning. When you are a witness to this type of student enthusiasm for literacy you feel the elusive love of literacy for these students has suddenly become more concrete.

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Appendix A
Book List for Kindle Project

5th and 6th Grade

1. Cleary, Beverly, **Ramona Quimby, Age Eight**
2. DeClements, Barthe. **Nothing's Fair in Fifth Grade.**
3. Howe, Deborah and James. **Bunnicula: A Rabbit Tale of Mystery.**
4. Paterson, Katherine. **The Bridge to Terabithia**
5. Rockwell, Thomas. **How to Eat Fried Worms**
6. Taylor, Mildred. **Roll of Thunder, Hear My Cry.**

7th and 8th Grade

1. Auch, Mary Jane. **Ashes of Roses.**
2. Bauer, Joan. **Hope Was Here.**
3. Bruchac, Joseph. **Code Talker.**
4. Budhos, Marina. **Ask Me No Questions.**
5. Farley, Walter. **The Black Stallion.**
6. Hunt, Irene. **Up the Road Slowly.**

***Importance of Quality of Life Issues:
A Pilot Comparison of Teachers and Parents of Children with Autism Spectrum Disorders***

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Abstract

Quality of life (QoL) issues for parents and teachers of children with autism spectrum disorders (ASD) are important to investigate. Independence, social functioning, school functioning and participating in leisure activities are some of the quality of life indicators that parents and teachers must agree upon to ensure effective communication and goal-setting. The purpose of the current study was to compare the perspectives of parents and teachers of children with ASD with regard to the importance of quality of life issues. Participants for this study consisted of parents and teachers of children with ASD. Results indicate that often, parents and teachers have different QoL goals for children and students with autism spectrum disorders. These differences in goals can be a complex issue and could result in discrepancies in how we educate individuals with ASD.

***Importance of Quality of Life Issues:
A Pilot Comparison of Teachers and Parents of Children with Autism Spectrum Disorders***

Quality of Life (QoL) is a measure of a person's overall wellbeing. This construct is influenced by many factors (Sipos, Predescu, Muresan, & Iftene, 2012; Lee, Harrington, Louie, & Newschaffer, 2008). QoL includes multiple domains including a person's perception and self-confidence while taking part in socially respected roles that are seen by others as competent (Lee, Harrington, Louie, & Newschaffer, 2008; Ruble & Dalrymple, 1996) and encompasses factors related to well being (Sipos et al, 2012; Pimley, 2007). QoL is recognized as an important construct in researching developmental disabilities (Lee et al, 2008). A major focus of both parenting and teaching a child with a developmental disability is to ensure that the child obtains the best quality of life possible. This study investigates the perspectives of both parents and teachers of children with an autism spectrum disorder regarding the different aspects of quality of life. Burgess & Gutstein (2007) have indicated that quality of life should be the framework for building programs, offering services, and assessing environments.

Some quality of life indicators to consider when judging outcomes for individuals with ASD can include: (1) participation in activities with family and friends, (2) contact with family members as frequently as desired to include events and passages (birthday parties, weddings, funerals), (3) being active and comfortable in a familiar community (transportation, shopping), (4) working at

a valued job to earn money, (5) learning about the world through successful experiences with supportive people (opportunity to try new activities and challenges), (6) taking responsibility for personal and home chores and contributing to the family, (7) making choices about purchases, and (8) having his/her own possessions to keep as desired. Johnson, Fremm, Fetham, & Simpson (2011) add that these indicators are based on a person's beliefs, perceptions and expectations. Acknowledging quality of life and rights for children with disabilities reiterates that having access to and receiving a free and appropriate education, preparation for employment, and recreational opportunities is critical for these children in order to integrate socially and develop as individuals to the fullest extent possible. With the passage of Americans with Disabilities Act of 1990 (ADA), P.L. 101-336, persons with disabilities may no longer be discriminated against in public services such as libraries, public restaurants, public transportation, and recreation programs. In addition, ADA emphasizes that employers must make "reasonable accommodations" to enable prospective employees to perform the basic responsibilities of the job.

Although previous legislation was geared toward assuring equal access and stopping discrimination against persons with disabilities, persons with autism have not benefited from these protections in the area of education until recently. Although recognized as early as the beginning of the 20th century, autism, a pervasive developmental disorder, was not categorized as a disability until the reauthorization of Individuals with Disability Act (IDEA) in 1990. This reauthorization created an additional category, mandated by law, which entitles children with ASD to receive all legal benefits. This additional category also acknowledges that children with ASD are a separate category within the IDEA disability umbrella.

With the IDEA of 1997, there are greater expectations for children with special needs. Congress has emphasized its focus on outcomes to assist children with special needs to become contributing and participating members of the community (Cappe, Wolff, Bobet, & Adrien, 2011; Autin, 1999). In addition, legislation dealing with inclusion has had a major effect on how children with special needs are accommodated in the classroom. The current literature reports that the ability of professionals to work with a child relies upon the critical component that they can work with the families as a system (Smith, Myles, Aspy, Grossman, & Henry, 2010; Gray, 1998; Simpson, 1990; Van Haren & Fiedler, 2008; Wetherby & Prizant, 2000).

Because today many children are increasingly being diagnosed with autism (Frederick, Barnard-Brak, Sulak, 2012; Center for Disease Control 2008; Hardman, Drew, & Egan, 1999; Huebner & Dunn, 2001; Lord & Risi, 2000; Sicile-Kira, 2004), there are increased educational concerns about quality of life (QOL). Professionals in the field of education must consider QOL and the importance of issues related to QOL. In addition, parents are concerned about QOL for their children. If parents and teachers are similar in their ideas regarding the importance of quality of life concerns, there may be a better chance of an effective collaborative relationship. However, if the ideas of parents and teachers are dissimilar, educational issues could go unresolved, resulting in conflict. This may serve to compromise the quality of the education for the child with autism (Cappe, Wolff, Bobet, & Adrien, 2011). With an increasing number of diagnoses and no known cure for autism, educational placement and services have the potential to become a major issue with regards to educational interventions and future success and outcomes in children with ASD

(Cappe et al, 2011; Bitterman, Daley, Misra, Carlson, & Markowitz, 2008; Kellegrew, 1995; Simpson & Myles, 1998).

Ruble & Dalrymple (1996) investigated forty-six individuals with autism. In this study, outcomes were addressed in a new framework that consists of a) a person's strengths and challenges, b) other's perceptions of competence, c) self-perceptions of quality of life, and d) environmental stressors and supports. Exploration of new ways to define and broaden views of outcomes, specifically with autism, was targeted. In addition, the researchers emphasize that professionals need to communicate with parents regarding the importance of competence and its relationship to quality of life. Quality of life domains provide a framework for determining the impact of autism in a way that does not merely look at symptoms. In addition, Lee, Harrington, Louie & Newschaffer (2008) Studies have reported that parents of children with ASD, no matter what their ages, had serious doubts about their children's well-being and, consequently, QOL issues (Sipos et al, 2012; Lee et al, 2008). Therefore, QOL is a critical component for parents and teachers who have or work with children who have an ASD.

The purpose of the current study was to investigate and compare the perspectives of parents and teachers of children with ASD with regard to the importance of quality of life issues. Nissenbaum, Tollefson & Reese (2002), state that there is an absence of research on the topic of relationships between families and professionals of children with ASD. When discussing the education of children with special needs, including children with ASD, the beliefs of parents and teachers must be included in that discussion. Research has consistently shown that both parents and teachers have a significant impact on the future of children with ASD. In response to the lack of research that compares beliefs of parents and teachers, this study investigated the extent to which parents' and teachers' ratings differed for QOL issues for children with ASD.

Method

Participants

Participants for this study were drawn from a population consisting of both parents and teachers of children with ASD in 2 mid-western states. Through convenience sampling a total of 15 teachers and 25 parents were surveyed. Convenience sampling is a type of purposeful sampling (Gay, Mills, & Airasian, 2009; Mertens & McLaughlin, 1995) and it is often utilized with research conducted with special education populations. Therefore, teachers in both public and private settings were selected based on geographical location.

Although this is a relatively small sample size and was chosen by availability, there is evidence that the sample is representative of the general population of parents and teachers of children with autism (Marszalek, Barber, Kohlhart, & Holmes, 2011). Both public and private school settings are represented in the participant groups. The children associated with this study had a variety of diagnoses within the autism spectrum (ASD, Asperger's and Rhett's).

The first portion of the instrument contained questions to enable the researcher to obtain demographic information about each of the participants. Information elicited from parents or guardians included relationship to the child, type of school placement, ethnicity, and location of residence. Information elicited from teachers included gender of the teacher, type of school employment, years of teaching experience, ethnicity, and location of school.

Parents. Twenty-five parents responded to the survey. The children had been diagnosed with developmental disabilities that included mild to severe Autism, Asperger's Syndrome, Rhett's Syndrome or Pervasive Developmental Disability. All parents resided in 2 mid-western states.

One father, 21 mothers, and 1 aunt participated in this study. In two cases the mother and father completed the survey together. Information about the parents who completed this survey is given in Table 1 below.

Table 1
Demographics of Parent Participants

Relationship			
Mother	21	(84%)	
Father	1	(4%)	
Other (Aunt)	1	(4%)	
Both	2	(8%)	
Ethnicity			
African American	4	(16%)	
Asian American	1	(4%)	
Caucasian	17	(68%)	
Hispanic	3	(12%)	
Native American	0		
Location of Residence			
Urban	17	(68%)	
Suburban	4	(16%)	
Rural	3	(12%)	

The majority of the parents were Caucasian (17). Four parents were African American, 3 were Hispanic, and 1 was Asian American. At the time of the study, seventeen parents resided in an urban setting, 4 lived in a suburban setting, and 3 lived in a rural area.

Teachers. The sample of 15 teachers was selected from schools in the rural and urban mid-west. All of the teachers worked with children with ASD of all levels.

Of the 15 teachers, 14 were female. Fourteen of the teachers were Caucasian and 1 was African American. Almost half of them (47%) have taught 5 years or less. Fifty-three percent have taught 6 years or more. Ten of the 15 teach in urban settings, 3 teach in suburban settings, and 2 teach in rural areas. Table 2 below shows the demographic information regarding the teachers who participated in this study.

Table 2
Demographics of Teacher Participants

Gender			
Male	1	(6%)	
Female	14	(93%)	
Years of Teaching			
1-5	7	(46%)	
6-10	2	(13%)	
Over 10+	6	(40%)	
Ethnicity			
African American	1	(7%)	
Asian American	0		
Caucasian	14	(93%)	
Hispanic	0		
Native American	0		
Location of School			
Urban	10	(67%)	
Suburban	3	(20%)	
Rural	2	(13%)	

Children with ASD. The demographics given in Table 3 reflect age, diagnosis, ethnicity, and any other disabilities, as reported by teachers and parents in this study. Of the 40 children targeted, ages ranged from 4 through 21 years. The ethnicity included 5 children from African American backgrounds, 31 Caucasian backgrounds, 3 from Hispanic backgrounds and 1 from an Asian American background.

Table 3
Targeted Children with Autism

	Parents	Teachers	Total
Age			
1-5	4 (16%)	1 (7%)	5 (13%)
6-10	17 (68%)	8 (53%)	25 (63%)
11-15	2 (8%)	3 (20%)	5 (13%)
16-20	1 (4%)	3 (20%)	4 (10%)
Diagnosis			
Mild Autism	8 (32%)	2 (13%)	10 (25%)
Moderate Autism	6 (24%)	7 (47%)	13 (33%)

Severe Autism	6 (24%)	4 (27%)	10 (25%)
Asperger's Syndrome	4 (16%)	2 (13%)	6 (15%)
Rhett's Syndrome	1 (4%)	0	1 (3%)
Ethnicity			
African American	4 (16%)	1 (7%)	5 (13%)
Asian American	1 (4%)	0	1 (3%)
Caucasian	17 (68%)	14 (93%)	31 (78%)
Hispanic	3 (12%)	0	3 (8%)
Native American	0	0	0
Other Disabilities			
Yes	8 (32%)	12 (80%)	20 (50%)
No	17 (68%)	3 (20%)	20 (50%)

Diagnoses indicated 10 children with mild autism, 13 with moderate autism, and 10 with severe autism, for a total of 83%. Asperger's Syndrome was reported in 6 of the children and Rhett's Syndrome was reported in 1 of the children, according to teachers and parents.

Instrument

The 20-statement instrument that was used in this study was adapted from Mutua (1999) with the purpose of collecting data about teachers' and parents' ratings of quality of life issues. Parents and teachers were asked to rate how important it is for them that their child/student achieves the future outcome specified by each item derived from theory on autism. The responses were scored on a 5-point scale from highly unimportant (1) to very important (5). Likewise, with regard to likelihood of expectations, responses were scored on the same scale, a 5-point Likert-type scale ranging from highly unlikely (1) to very likely (5). This instrument was appropriate for this particular study since it was used in the recent past to investigate expectations for children with disabilities, including that of autism (Mutua & Dimitrov, 2001; Mutua, Miller, Mwavita, 2002).

Since the survey used a Likert-type scale, Cronbach's Alpha was used to assess internal consistency. The data were determined to have a reliability coefficient of .90 for the Importance of Expectations and .93 for Likelihood of Expectations. The reliability coefficient for the data as a whole was .91. These high alpha values indicate that the instrument and its parts measure the same characteristics. This is consistent with the reliabilities for importance and likelihood (.90 and .93, respectively) reported by Mutua (1999). In addition, Mutua used exploratory factor analysis (EFA) to study the nature of the theoretical factors on expectations of importance. She found that the survey was composed of factors with a high correlation and content equivalency across their ratings. These four factors were adult roles, importance of community and civil access, importance of educational attainment, and importance of personal fulfillment.

Procedure

The researcher received permission from the superintendents prior to conducting the study. Informed consent was obtained from all participants' parents or guardians. The surveys were distributed to the teachers and parents by the investigator. Participants were instructed to return

the surveys to the researcher within two weeks. Stamped envelopes were provided if the teachers and parents chose to mail the responses to the investigator.

Data Analysis

Parents' and teachers' ratings of the QOL issues for children with autism were the focus of this study. The analysis was computed using SPSS statistical package. The research questions guided the data analysis.

Since the two groups were drawn from different populations, an independent-samples t-test was calculated for each construct to determine if the means of parent responses differed significantly from that of teacher responses. Levene's Test for Equality of Variances was calculated to see if the spread of the two groups differed. If the significance level for this test was low (less than 0.05), the separate-variance t-test was used. If Levene's Test showed that the variances were equal (the distributions have the same shape), a pooled-variance t-test was used. The 95% confidence interval was calculated for each comparison.

Sample size is always a concern in research studies. When comparing responses of parents and teachers it should be noted that there were 25 parents and 15 teachers. However, research (Marszalek et al, 2011; Delaney & Vargha (2000) and Sawilowsky & Hillman (1992) supports the acceptability of the ratio of parents and teachers in this study.

Results

Parents' and teachers' ratings of importance of QOL issues for children with autism were the focus of this study. The construct examined was the issue of importance with QOL as expressed by the responses of both parents and teachers. The means and standard deviations for the parents and teachers are given in Table 4 below.

Table 4

Means and Standard Deviations of Teachers' and Parents' Responses

Statement	Parent		Teacher	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
My child/student with autism will be...				
1. ...happy and satisfied	4.72	.54	4.60	.63
2. ...attend school.	4.96	.20	4.93	.26
3. ...get married.	3.44	1.42	2.27	1.22
4. ...own a house.	3.56	1.26	2.07	1.28
5. ...support network of friends.	4.68	.56	4.47	.92
6. ...religion of choice.	3.92	1.19	3.40	1.45
7. ...accepted in the community.	4.56	.65	4.87	.35
8. ...secure financial future.	4.68	.48	4.33	.82
9. ...safe from physical harm.	4.92	.28	5.00	.00
10. ...highest education possible.	4.68	.75	4.80	.77
11. ...help with household chores.	4.44	.77	4.87	.35
12. ...socially responsible/law abiding.	4.64	.49	4.73	.59

13. ...take care of parent in old age.	1.56	.77	2.13	1.19
14. ...participate in citizenship activities.	3.44	1.12	3.80	.77
15. ...live independently..	4.40	.65	3.93	.92
16. ...time to play/watch games.	4.40	.71	4.60	.63
17. ...hold a job/vocation.	4.64	.57	4.67	.72
18. ...have own children.	2.96	1.59	1.73	.96
19. ...use community services.	4.24	.72	4.60	.83
20. ...be successful in school.	4.60	.71	4.47	1.13

For parents, the means ranged from 1.58 for statement 13 (...take care of parents in old age) to 4.96 for statement 2 (...attend school). The mean for statement 18 (...have own children) was the second lowest mean (2.96). The rest of the statements had means equal to or greater than 3.44.

For the teachers, the means ranged from 1.73 for statement 18 (...have own children) to 5.00 for statement 9 (...safe from physical harm). Close to the high of 5.00 was the mean 4.93 for statement 2 (...attend school). The means for several other statements were low (2.27 or lower): statement 3 (...get married), statement 4 (...own a house), and statement 13 (...take care of parents in old age). The rest of the statements had means equal to or greater than 3.40.

There were four statistically significant differences as a result of the t-test. These results are given in Table 5.

Table 5
Results of Independent-Sample t-test

Statements	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		t	df	Sig.(2-tailed)
			Lower	Upper			
1	-.12	.19	-.50	.26	-.64	38	.528
2	-.03	.07	-.17	.12	-.37	38	.717
3	-.17	.44	-2.07	-.28	-.66	38	.011*
4	-1.49	.41	-2.33	-.66	-.61	38	.001**
5	-.21	.23	-.68	.20	-.92	38	.364
6	-.52	.42	-1.37	.33	-.23	38	.225
7	.31	.16	-.01	.63	1.93	37.7	.061
8	-.35	.20	-.76	.07	-1.70	38	.097
9	.08	.06	-.03	.23	1.45	24	.161
10	.12	.25	-.38	.62	.49	38	.631
11	.43	.18	.06	.79	2.39	36.1	.022*
12	.09	.17	.26	.44	.54	38	.593
13	.57	.39	-.05	1.20	1.86	38	.071
14	.63	.30	.25	.97	1.20	37.1	.238
15	-.47	.25	.98	.04	-1.88	37	.068
16	.20	.22	.25	.65	.90	38	.374
17	.03	.21	.39	.44	.13	38	.898

18	-.23	.40	-.05	-.41	-3.04	37.9	.004**
19	.36	.25	.15	.87	1.44	38	.157
20	-.13	.29	.72	.45	-.46	38	647

* $p < .05$. ** $p < .01$

Two of these, statement 4 (...own a house) and statement 18 (...have own children), were significant at the .01 level while two, statement 3 (...get married) and statement 11 (...help with household chores), were significant at the .05 level. For all of the significantly different responses, except for statement 11, the parents articulated a higher degree of importance than did the teachers. The importance for statement 11 was greater for the teachers.

For the remaining statements there were no statistical significances found for parent and teacher responses. There were no significant differences in statement 1 (...being happy and satisfied), statement 2 (...will attend school), statement 5 (...network of friends), statement 6 (...religion of choice), statement 7 (accepted in the community), statement 8 (secure financial future), statement 9 (...safe from physical harm), statement 10 (highest education possible), statement 12 (...socially responsible/law abiding), statement 13 (...take care of parents in old age), statement 14 (...participate in citizenship activities), statement 15 (...live independently), statement 16 (...have time to play/watch games) statement 17 (...hold job/vocation), statement 19 (...use community services), and statement 20 (...be successful in school).

Discussion

The purpose of this study was to determine to what extent parents' and teachers' differ in their ratings of importance of quality of life issues for children with autism. The views of both groups have validity. These groups see children in different settings that affect the children in different ways. Therefore, the two groups may provide mutually exclusive perspectives on the importance of QOL issues.

For the parents, the lowest means were for the concept of taking care of parents in their old age. Due to the fact that parents (63%) who responded in this study have children as young as age 4 years, the parents may not feel a child this young could actually care for them. It is possible that parents are relying on siblings to burden the responsibility of caring for them when they are old. Possibly related to this inability to care for others is the response to the statement about having children. Parents may feel that their child with ASD lacks the capacity to be a caregiver, whether for elderly parents or children.

Parents responded that school attendance issues are very important. Schools offer parents of children with ASD assistance with academic and vocational education as well as daily living skills. Much of the parental support comes from the schools. Parents indicated that the services and programs available are important and needed.

Teachers indicated that their most important expectation for their students is that they are safe in society and will experience no bodily harm. In addition, the teachers put a high degree of importance on attending school. All the participants were employed as teachers in the field, giving weight to the value of education and its related interventions for children with autism.

Teachers did not feel that having children is an important aspect in life for a student with ASD. Teachers indicated that basic academics, daily living skills, and communication skills are more critical than raising children. Further, teachers did not think a student with autism should concentrate on taking care of other adults such as parents and probably would not have the appropriate skills to do so.

Although there were four statements for which there were statistically different means for the responses, numerically some of the means were quite different. For the importance of getting married, the mean for the parents' responses was one of the highest while the mean for the teachers' responses was one of the lowest. For the statement concerning the importance of acquiring his or her own home, the mean for parents' responses was high while the mean for the teachers' responses was low. Although the means differed significantly, they were not extremely high or low.

Both parents and teachers were generally positive about the importance of participating with chores although the teachers' means were significantly higher than the means of the parents. For the concept of having children, the means for both groups were significantly different but both were relatively low.

The three statements that the parents ranked as significantly higher than did the teachers (get married, own a house, and have own children), represent the hopes of most parents for their children. Teachers did not see the students in a home and family environment on a daily basis; therefore they did not see these QOL issues as critical. However, concerning the item about household chores, the teachers commonly included the daily-living skills in the residential setting as well as part of the classroom curriculum for students with low incidence disabilities. Therefore, this would be a critical issue for teachers. For parents, there are often other people, such as siblings, in the family that can assist with these duties other than the child with ASD.

There were several statements for which there was no statistical significance found between parent and teacher responses. The parents and teachers agreed on the importance of being a contributing member of society such as having friends, participating in citizenship activities, being responsible, and being accepted in the community. Additionally, both groups also viewed being a law-abiding citizen and being employed as important for the individual with ASD. There was also agreement on the importance of well-being QOL issues such as being safe, using community services, being happy, and having a secure financial future. Pimley (2007) found that QOL issues of social and community relationships may be influenced by the desire of children with ASD to live with as few social contacts as possible. In this study both parents and teachers were very positive about the importance of this topic.

Parents and teachers also agreed that the self-choice issue of religion was important. Educational issues were important to both parents and teachers. Although parents and teachers agreed on the importance of living independently (parents: $M=4.40$; teachers: $M=3.93$), and taking care of parents in old age (parents: $M=1.56$; teachers: $M=2.13$), there was a large, although not statistically significant, discrepancy in the means of the two statements. The means of the responses for caring for elderly parents were very low (parents: $M=1.56$; teachers: $M=2.13$).

Also low were the means for the possibility of having children (parents: $M = 2.96$; teachers: $M = 1.73$).

Implications

The purpose of this study was to investigate the extent to which differences exist on parent and teacher ratings of the importance of quality of life issues. It is critical to understand the issues related to quality of life issues for children with an autism spectrum disorder. Parents and educators alike have been assigned the difficult tasks of preparing these children for an independent, satisfying life and future. Through examining the commonalties and differences between parents and educators, one gains a clearer understanding of the perspectives of both. The parents expressed a much higher importance on family issues, such as marriage, establishing a home, and having children than did the teachers. Teachers expressed a much higher importance on independence and daily-living skills. Increased awareness of both perspectives enables both to create better strategies for improved quality of life outcomes in children with an ASD.

When considering the domains of QOL, it is important to take into consideration all potential service providers. By expanding our knowledge of how autism impacts the QOL of not only individuals with autism, but also their family members, support and services can be developed for children and families. No one would argue against the fact that families of children with ASD need support. These findings convey to service providers which QOL issues are deemed important to parents. This allows the providers a clear picture of the insight and beliefs within the family system. Therefore, these expectations should be incorporated into service delivery when appropriate. More specifically, professionals in the medical field should consider QOL when investigating treatment options. Meaningful dialogues are important in addressing parental beliefs about QOL issues.

In a clinical setting, QOL issues can play a role in intervention decisions based on the family values (Lee et al, 2008; Bailey & Simeonsson, 1988). This will help the engagement of the intervention process and assist with acceptance and follow through to reach the goals of the interventions. In addition, the goals of any intervention should be meaningful to the families' everyday lives (Cappe et al, 2011; King, Currie, Burtlett, Gilpin, Willoughby, Strachan, Tucker, Baxter, 2005).

This research is important to families as well. Parents may appreciate the feeling that they are not alone in their expectations of QOL issues. There is a degree of normalcy that is often needed (Cappe et al, 2011; King, Zwaigenbaum, King, Baxter, Rosenbaum, Bates, 2006). If parents can also articulate their needs and beliefs about QOL issues, they can offer a reason for the decisions they make as parents of a child with special needs. They can also enlist the specific types of support they deem necessary.

Future Research

Even though this study adds to the literature regarding QOL issues for parents and teachers of children with ASD, there is a need for additional research to determine the reasoning behind the responses of the parents and teachers. Future studies might examine the differences between

mothers and fathers with regard to the importance of quality of life as well as the differences related to the degree of severity on the autism spectrum.

Concluding Remarks

Quality of life is influenced by personal and environmental entities and their interactions. Parents and teachers are basic components in the lives of all children but often see children in very different settings. The critical interaction issue for children is the need for collaboration and communication between the parents and teachers. If there is not congruence about the importance of quality of life issues, the goals may be significantly different. This research reveals that parent and teacher viewpoints about which components are truly important, do not always correspond. Hence, it is unlikely that the expectations for QOL, and therefore perceived life-long needs, will be the same.

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Effects of Early Childhood Education on Children with Hearing Impairments in Special Schools in Kiambu, Murang'A and Nyeri Counties, Kenya

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Abstract

This study sought to find out the effects of Early Childhood Education on children with hearing impairment (HI). Vigotsky's theory of cognitive development guided the study. Descriptive survey method was used. Target population included children with HI between ages 3-6 years and their parents, teachers, head teachers all from special schools in selected districts. Purposive sampling was used to select schools, classes, children, teachers and head teachers while convenience sampling was used to select parents. Interview schedules were used for head teachers, pre-primary teachers and for parents. The instruments were pre-tested for validity and reliability. Split-half technique was used to assess the instruments' reliability while validity was determined after it was read through with the representative respondents. Findings revealed that teachers played their role effectively but delays by parents in enrolling their children for ECDE during the required early child years curtailed adequate effect of ECDE on children with HI.

Effects of Early Childhood Education on Children with Hearing Impairments in Special Schools in Kiambu, Murang'A and Nyeri Counties, Kenya

The early years of a child are quite important in laying the foundation of adulthood. During this time, children undergo fast growth changes in mental, physical, social, emotional and spiritual development (NACECE, 1999). Therefore, high quality early childhood development and education (ECDE) programs particularly for children at risk produce far reaching benefits not only to the individual but also to the society. According to Young and Richardson (2007), enhanced early childhood development leads to improved health and wellbeing population and prosperous society. They claim that ECDE has a great impact on the physical, mental health and wellbeing of the child in the later stages of life. They continue to argue that in the early years, the experienced brain and biological development sets, basic competence behavior, and learning that lasts throughout the life cycle. It also influences how individuals cope and contribute to the society in which they live and work. It is for this reason that every child needs to undergo effective ECDE to foster holistic development and hence become a useful member of the society.

The importance of education in the early years of a child has been further emphasized the world over and it is particularly outstanding in three documents, that is the Convention on the Rights of children (CRC) of 1989, which states that all children have a right to free education, Conference

on the Education for All (EFA) and world summit for children (KISE, 2007). This implies that every child should be provided with education regardless of who the child is in order to give them a firm foundation for their future lives.

A focus on the various parts of the world indicates that every culture has had and still does have the task of socializing and educating their young. Today, the nursery schools are considered essential for greater chances of success in schools (Cochran, 1993). Hence, schooling of all children from 2 - 6 years old takes place everywhere (UNESCO, 1997). Teachers' of children with Hearing Impairment (HI) are consulted on matters regarding curricula and assessment procedures (Gregory, 2002). The early enrolment of children in ECDE is recognized to have a great effect on the success of children in primary schooling.

Similarly in the United States of America (USA), educational progress for young children provided enrichment and socialization mainly for the middle and upper-middle income families. Then in the 1960s, the national head start program was established for economically disadvantaged children (Cochran, 1993) which concentrated on the development and education of children from birth to eight years (Denier, 2005). Gregory (2002) states that, the education goal in the USA for majority of children who are deaf is learning English. Teaching is done using pure auditory-oral methods and signs from the American Sign Language (ASL). Teachers are encouraged to provide appropriate language models and opportunities for learning language in working with pre-school children with HI. The enhancement of language for both teachers and children has a great effect of ECDE on the learners with HI. Although Vigotsky believes that language is crucial to the development of one's thought processes, concentrating on learning English alone blocks the children from benefiting in other learning areas.

In India, child caring was traditionally a family responsibility until the technological and social development in the 20th century which brought drastic changes to child rearing and education pattern as family members sought paid labor. This led to establishment of pre-schools which enroll children between 2½ - 5 years of age from middle and upper class families since those from low income groups lack awareness and place education as a low priority (Cochran, 1993). According to Chowdhury (2002), pre-school education in India is a neglected chapter as there is a great deal of confusion regarding pre-school programs. On the same, Gregory (2002) contends that many Asian children with HI suffer considerable frustration and confusion related to their identity leading to problems. She also asserts that hearing Asian parents experience difficulties in instilling values, behavior and knowledge in their children with HI.

In support, Chowdhury (2002) points out that 60% of children less than six years are left in each other's care in India and lose out on proper stimulation and educational opportunities. Thus, the underprivileged child such as the one with HI suffers insurmountable education handicap from the time he/she is born due to lack of Early Care and Education (ECE). The objective of the pre-schools in India is mainly to prepare children for primary education and provision of nutrition and care. Those with disabilities (below 5 years) are referred to district hospitals as there are no government programs at village level to meet the special needs of children with disabilities. Those above 5 years are referred to mainstream schools. Children with disability are thus not accepted in pre-school although identification and referral is one of the components in the training of the workers (UNESCO, 1997). This theory shows that the young children with HI are

not exposed to early childhood education and thus they are denied its benefits or effects such as instilling of various skills at the appropriate age.

Similarly, Australia's preschools are available only to children in the year before school entry. Most of them offer half-day sessions per week and are closed during the school holidays (Cochran, 1993). Chile on the other hand, aims to expand the coverage of pre-school education of children between 0-6 years. Her pre-school educational system plays a major role in integrating children with special needs (UNESCO, 1997).

In the past in the African community set up education of children was paramount and a community affair. This was done at an early age through stories, riddles, tongue twisters, proverbs and on-job training. Currently this order has been interrupted by socio-economic and socio-cultural changes, children being born and growing under extremely difficult conditions due to rapid social and environmental transformation which has given rise to socio-cultural disintegration, increased number of women in labor force and households headed by women (NACECE, 2000). Similarly, men have moved to urban areas, mines or large-scale farms for wage employment thus dumping their traditional roles of overseeing family duties. These factors among others have led to broken extended family systems, with dire consequences on the positive development of the child and education.

Africans have also been affected by wars, population growth and rapid urbanization adding to problems of provision for children, childcare and informal education practices making the condition of children pathetic. For instance, Ethiopia and Sudan have had years of drought, which have taken toll on the children. These interruptions made it necessary to equip the children with formal education and care in central institutions leading to establishment of the ECDE centers (NACECE, 2000). In Zimbabwe, education of children with HI started in 1940s and this education is on the rise (Gregory, 2002).

In Kenya, education and socialization of the young took a natural process carried out by members of the extended family who lived together and thus monitored the growth of children, enforced rules, and discipline and apprenticed them in what they would be occupied in as adults. However, the introduction of the cash economy and changed settlement patterns, have eroded the stable and secure environment within which the child grew up. Disintegration was further quickened by the emergency in the 1950s which resulted to detention of men. Women had to shoulder the roles of men as breadwinners and mothers. This led to the emergence of ECDE institutions in the agricultural plantations prior to 1940. The ECDE institution for the African children with hearing impairments in Kenya was first started in Mombasa in 1958, that is, Aga Khan Special School (Ndurumo, 1993). Today, child-rearing, socialization and education have been replaced by paid classroom ECDE teachers and untrained child minders. This is due to established formal education and other factors such as rural-urban migration (NACECE, 2000). This is an indication that most parents are busy in paid employment and have no time for child-rearing. Therefore, if children are not enrolled for ECDE, their opportunities for learning important skills are blocked. Thus, the study assessed the enrollment trend of children with HI in Kiambu, Murang'a and Nyeri counties, Kenya.

ECDE in Kenya caters for holistic development of children between the ages of 0-6 years. The relevant services are offered in institutions such as nursery schools, kindergartens, crèches, pre-units, pre-schools, pre-primary schools and other out-of-school settings (NACECE, 2000). Pre-school education for children with HI takes place in units in some regular public schools and ECDE classes in public schools for children with HI. According to Ndurumo (1993), traditionally, children with HI spent their first 3-4 years in oral designated communication schools if they fail to develop oral skills. This study sought to find out whether this is the case to date. Ndurumo argues that children with HI should be allowed to follow the regular school curriculum.

Despite the fact that ECDE plays a major role in the holistic development of children in Kenya, it is not compulsory, nor is it subsidized hence attendance in pre-school is not a prerequisite for joining standard one. Some parents lack awareness on the importance of the ECDE curriculum and hence keep their children at home until they attain the age of 6 years when they join standard one. This denies the children an opportunity to be exposed to enriched environments in pre-school during their critical stage (3-6 years) of development when they are most receptive to learning new experiences. The lack of exposure to ECDE leads to limitation of the intended ECDE effect on the children with HI. The introduction of free primary education (FPE) and prohibition of conducting interviews on children to join standard one have made unwilling parents to view ECDE as redundant especially because they have to pay levies for ECDE unlike the primary school education. While it may be easy for children without hearing impairments to catch up with their peers to undergo ECDE, the situation can be quite harmful to children with hearing impairments. This study exposed the effect of ECDE on children of ages 3-6 years with hearing impairments in special primary schools in Kiambu, Murang'a and Nyeri counties, Kenya.

Theoretical Framework

The study was based on Lev Vygotsky's theory of cognitive development which shows that children learn through interactions with their surrounding culture. He stresses the importance of guidance from adults or more competent individuals in enhancing the children's cognitive development. He proposed the concept of Zone of Proximal Development (ZPD) in which he believes most sensitive instruction or guidance can help children to attain higher levels of thinking. The theory posits that children have innate basic abilities that are developed into most sophisticated and effective mental process through social interaction with other people and with a skillful tutor. According to Vygotsky language is crucial to the development of a child's thought process since thoughts are displayed through words. The young child needs to be actively involved in his or her own learning.

This theory shows that, a good education stresses on what children can do as their capability begins to emerge with the appropriate help. According to Vigosky, the merging of thought and language takes place between 3-7 years of age and involves talking to oneself. He claims that children must use language and communicate with others before they focus inward to their own mental processes. He points out that the chronological age is not an indicator of potential. On disabilities such as hearing impairments, he states that social interaction is essential to a child's social development. The influence of child impairment on his/her ability to engage in social interactions affects their development. He argues that the social consequences of the disability

have more impact on the child than the disability itself. Therefore, full potential development can be acquired with the help of social interaction with adults and the peers. He supports consistent and effective guidance by an instructor to help a child progress to his/her their potential level and be able to carry out the learnt skills on their own in future. This shows that children with HI need an early exposure to environments that provide social interactions with teachers and peers in order to realize full potential development. They also need skilled instructors i.e. the teachers for an adequate effect to their learning.

This study sought to assess the effects of ECDE services on children aged 3-6 years with hearing impairment and its effect on their learning. The major objectives of the study were to: (a) investigate the enrolment trend of children with HI in primary schools for the deaf in Kiambu, Murang'a and Nyeri, counties, Kenya, (b) assess the type of Educational ECDE services provided to children with HI and its effects to their learning, (c) investigate the role played by the parents and teachers of the children with HI in ECDE in enhancing the effects of ECDE, (d) identify the constraints experienced by teachers of the children with HI in ECDE.

Methodology

The study adopted survey research design to investigate the effect of ECDE on children with HI. This is an un-experimental design which is characterized by the collection of data using interview schedules.

Target Population

Three (3) schools were identified representing the 3 counties, Kiambu' Murang'a and Nyeri. 2 ECDE classes were selected from each of the 3 schools, total of 6 classes in number. The total number of children was 67. Information was gathered from 6 pre-school teachers, i.e. 2 from each school, 3 head teachers. The parents of 67 children were targeted to provide data about their children.

Sampling

Purposive sampling was used to identify special schools for children with HI in the 3 counties. These schools are the only ones of their kind in the selected counties. Purposive sampling was also used to collect data from head teachers and pre-primary teachers in selected schools. Convenient sampling was done on the parents. In this case, data were collected from those parents of pre-primary school children with HI who were easily available during the parent's visiting days.

Data was collected from the 3 special schools for the deaf. 2 Pre-primary classes were sampled from each of the 3 special schools, making them a total of 6. Each school had 2 pre-primary teachers whereby both were sampled making them a total of 6. The head teachers were 3, 1 (one) from each school, while 5 parents were interviewed from each school hence 15 of them. These also represented 15 children. The total number of respondents was 24.

Research Instruments

Interview schedules were the main instrument used. However, where the enrolment of children was required information was derived from the class and admission registers.

Interview Schedule

These were interview schedules for the head teachers, teachers and parents. The schedules for the head teachers had 7 leading questions which focused on the number of pre-school classes, the number of teachers, the age at which the children are enrolled for ECDE, the enrolment trend and constraints experienced in enrolment and teaching.

The schedule for the teachers had 9 questions in which data collected were mainly on educational services that expose children to ECDE activity areas, methods used, professional records, the constraints that the teachers experience in teaching/learning process and the notable effects of ECDE on the children. The parents schedule had 9 questions which dwelt on the age at identification of HI in their children, intervention and enrolment for ECDE. It also focused on the notable effects of ECDE on their children.

Registers

Admission and attendance registers were used to support the data collected from the head teachers and the teachers. The admission registers were useful in gathering data of the age at which the children were admitted in the schools as well as the enrolment trend from 2003-2009. The attendance registers helped to get data on the number of children in each class as well as to identify the classes in which the sampled children were.

Pilot Study

Pre-testing was done at Racecourse Primary school's unit for learners with HI, Nairobi. The school was selected through convenient sampling, that is, familiarity and manageable distance. The head teachers, pre-school teachers and parents of children with hearing impairments were interviewed. These subjects did not participate in the main study.

Data Collection

The researcher held face-face interviews with the head teachers, ECDE teachers and parents of children with HI and recorded the information given manually on the spot. In each of the three special schools selected for the study, the researcher took three different days in each school. The first day data was collected first from the school head teacher's in their school respective offices and secondly, from the two selected pre-school teachers individually in the school's deputy head teacher's office in each of the three schools. On the second day, using the deputy head teacher's school office the researcher spent a day collecting data from admission and attendance registers on age at which the children were admitted in the schools as well as the enrollment trend from 2003-2009, and also checked on number of children in each of the identified ECD classes. On the third day the researcher carried out interviews with each of the five parents who were easily available during the parent's visiting day from each of the three selected schools. Parents could only be available during the parent's visiting days which was on a Saturday and were therefore interviewed on particular selected school parents' visiting day. This was successfully achieved due to the cooperation of the head teachers.

Data Analysis

Data were analyzed quantitatively and qualitatively. The quantitative analysis was done by computing the numerical data in tables, pie charts, graphs and percentages manually and by excel. These were useful in quantifying the percentage of children with HI who had managed to

access ECDE services. Qualitative analysis was employed to complement quantitative analysis by giving a descriptive report on the findings based on the themes, that is, in form of text. It was also used to give a descriptive report generated from the interviews and other data from the school records, such as those for enrolment. Data interpretations were also made and analyzed quantitatively.

Ethical Considerations

Clearance to carry out the research was given by the Ministry of Education, Science and Technology (MoEST) where a research permit was granted to the researcher. Consent of the respondents was also sought through letters of introduction and description of the study. Decency, politeness, punctuality, and confidentiality were observed.

Results

The research was done in three special schools for children with hearing impairments (HI) from the sampled districts. The schools are hereby coded schools A, B and C that is Tumutumu (A), Muran'ga (B) and Kambui (C). In these schools, data were obtained from the head teachers, 2 ECDE teachers from each school and 5 parents from each school. This was done by conducting interviews to each one of them. Thus, the respondents were all 24 in number.

Enrollment Trend of Children with HI in Special Primary Schools for the Deaf

Table 1
Children's enrolment trend from 2003-2009 in schools A, B and C

Year	School A			School B			School C		
	Total	<6yrs	%	Total	<6yrs	%	Total	<6yrs	%
2003	13	6	46.2	6	2	33.3	13	4	30.8
2004	12	5	41.7	13	6	46.2	23	7	30.4
2005	11	5	45.5	14	9	64.3	16	2	12.5
2006	12	2	16.7	11	9	81.8	33	7	21.2
2007	11	4	34.4	12	2	16.7	31	3	9.7
2008	11	5	45.5	14	5	14.7	23	6	26.1
2009	12	5	41.7	19	2	10.5	16	1	6.25
Total	82	32	39	89	35	39.3	155	30	19.4

Table 2 (on page 17) shows the number of children who accessed ECDE education during the years 2003-2009, those in the pre-school years that is 6 years and below was less than half the total number. School B enrolled the highest percentage with 39.3% followed by school A with 39% while school C had 30%. Only 30 % of the children were enrolled at age of 6 years and below. In the duration of 7 years, only school B was able to enroll more than half of children of 6 years and below out of the total number of children in 2005 with 64.3% and 2006, that is, 81.8%.

Type of ECDE Educational Services Provided to Children with HI and the Effect on Their Learning

Although there are various services provided to children with HI, the researcher was mainly interested in the educational activity areas that make up the curriculum in ECDE. These include

language, number work, outdoor, CRE, Science, social studies, life skills, creative arts and music.

A. Educational services provided

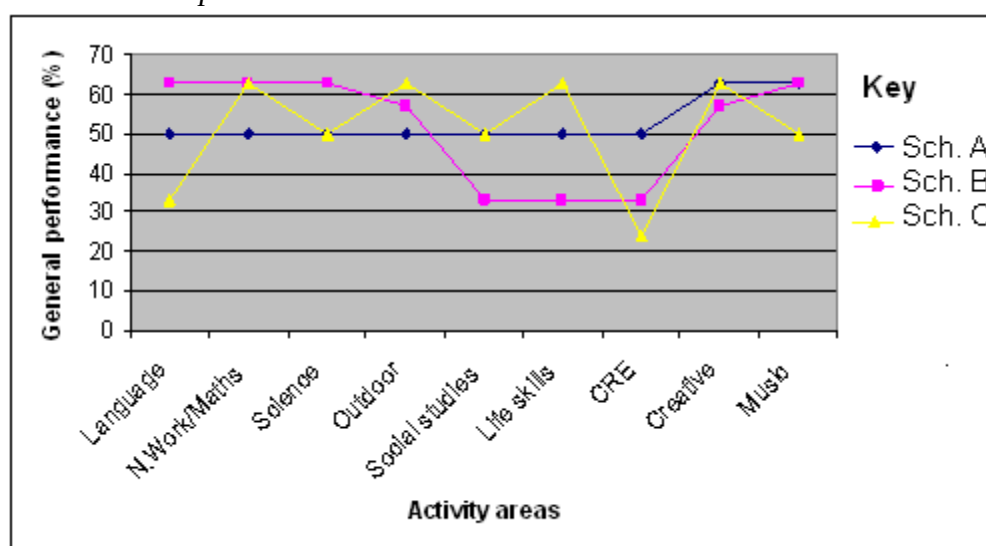


Figure 2: ECDE activity areas

Figure 2 shows the findings of the research on how the children in schools A,B and C were performing in the various ECDE curriculum activity areas. The findings show that all the three schools (A, B and C) were offering all the activity areas as per the ECDE curriculum and involved children in relevant activities.

B. Effects of ECDE Services on Children with HI.

The study sought to establish the effect of the ECDE services to children with HI. Five parents from each school were interviewed making them a total of 15. Results are indicated in Table 2

Table 2

Impact of ECDE services on the children with HI

Skills	Total number of respondents	Frequency	%
Sign language	15	9	60
Writing	15	9	60
Reading	15	6	40
Social skills	15	12	80
Life skills	15	8	53
Discipline	15	9	60

Table 2 shows the various benefits that children get from the ECDE services as reported by their parents. Out of the skills identified, acquisition of social skills seemed to be the most outstanding. 80% of the respondents who were interviewed had noticed it in their children. However, 60% identified acquisition of sign language, writing, and improved discipline. 53%

identified life skills in the children. Therefore, ECDE has a positive impact on the children with HI. On the other hand, only 40% of them had identified reading skills in their children.

The Role Played by the Parents and Teachers of Children with HI in ECDE

Data were gathered on the role of two major stakeholders, i.e. parents and the teachers of children with HI who were interviewed separately. That is, 5 parents from each school making them a total of 15 parents and 6 teachers, that is, two from each school.

A. Role Played by Parents

The role played by parents of children with HI, in ECDE was investigated. Those interviewed cited roles such as identification of HI in their children, taking intervention measures developing sign language, enrolment, socialization and seeking medical attention.

Of major concern in this study were the ages at identification of HI, intervention and enrolment in ECDE. The researcher gathered data in connection to the same by interviewing parents from schools A, B and C. The findings are as shown in Table 3.

Table 3
Roles of parents

Roles	Ages of children								Total No. of respondents
	Below 1 yr	1yr	2yrs	3yrs	4yrs	5yrs	6yrs	Above 6 yrs	
Identification	2	2	4	4	3	-	-	-	15
Intervention	1	2	4	4	1	2	-	1	15
Enrolment	-	-	-	-	2	1	6	6	15
Total number of children	3	4	8	8	6	3	6	7	

Table 3 above shows that most parents were not able to identify their children's HI before the onset of language development. Only 4 out of 15(27%) of those interviewed were able to identify HI in their children before the age of 2 years.

B. The Role Played by Teachers in Teaching and Learning in ECDE

The roles carried out were coverage of ECDE syllabus, development of teaching and learning resources, using relevant methods of teaching plus developing and keeping relevant records. Results are indicated in Table 4.

Table 4
Teacher's roles

<i>Roles</i>	<i>School A</i>	<i>School B</i>	<i>School C</i>
Coverage of syllabus	Satisfactory	Satisfactory	Inadequate
Development of teaching and	Adequate	Adequate	Adequate

learning resources			
Use of relevant methods of teaching	Adequate	Adequate	Adequate
Keeping of relevant records	Adequate	Adequate	Adequate

Table 4 above shows that the teachers in schools A, B and C carried out their roles in the development of resources, the use of relevant methods of teaching and the keeping of relevant records. For instance in development of resources, school A had material such as charts, real objects, flash cards and pictures. School C had charts learning corners and outdoor materials. The findings also showed that there was adequate use of relevant methods of teaching in all the three schools which included taking children for nature walk and play. They also used demonstration and participatory methods. There was also adequate keeping of relevant records by the teachers in the three schools however; the coverage of the syllabus in schools A and B was satisfactory but inadequate in school C. Thus, the teachers were found to be devoted to their roles in enhancing a positive effect of ECDE on the children with HI.

Constraints experienced by teachers' of the children with HI in teaching and learning in ECDE

Constraints experienced by the teachers of the children with HI in ECDE were identified by the researcher. This aimed at finding out whether there were hindrances or limitations to adequate effect of ECDE on children with HI. During the research, study the teachers complained of various constraints relating to provision of quality education to children with HI. Figure 3 below shows the findings:

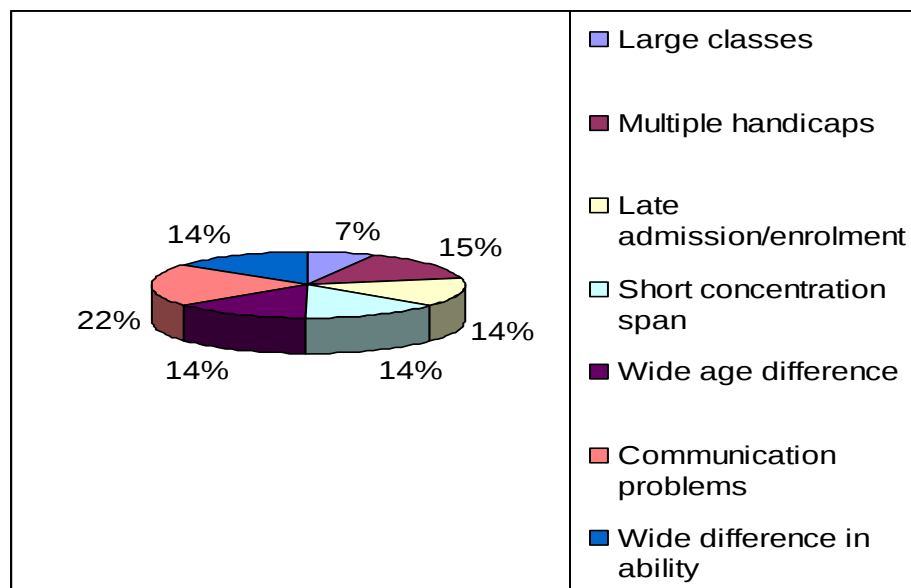


Figure 3: Constraints experienced by teachers of children with HI in ECDE

Out of the 7 constraints, communication problems were found to be the leading constraints in the three schools with 22%. Multiple handicaps were identified in schools A and B while late

enrolment of children, short concentration span, wide age differences and children's abilities were identified in schools B and C taking 14% each. Large classes were a constraint in teaching and learning only in school B which was 7%.

Discussion

The study shows that majority of the children do not access ECDE services during the critical early childhood years, that is, six years and below. According to Bala and Rao (2004), early childhood education helps to increase self-confidence and creates a clear, cut avenue for successful integration into regular schools. However the findings show that 70% children with HI are enrolled for ECDE when they are over 6 years. This indicates that children do not get opportunities for social interaction with teachers and their peers early enough to benefit adequately in cognitive development, as recommended by Vigotsky. This is also confirmed by an earlier observation by MoE (2009) that access to special education for those with special needs remains limited. MoE (2006) on the other hand claims that a report by the Global monitoring Education for all showed that only 35% of children aged 3 years to 5.11 years have been accessing ECDE services since 1990. Thus, going by this research study, the situation for children with HI is even worse with only 30% accessing ECDE services at pre-school level.

This limits the children's opportunities which they need to have the intended effect of ECDE considering that out of all the children who were enrolled for ECDE services at pre-school level between year 2003 – 2009, only 30 % were 6 years and below.

It was noted with a lot of concern that majority of the children lack early educational intervention. In all these parents bear the largest part of the blame considering their role in the enrolment of their children with HI. For example, MoE 2006 states that some parents keep their children at home until they attain age 6 years to join standard one avoiding payment of levies in pre-school and prefer the privilege of enjoying free primary education in standard one. In this study, the parents of children with HI had problems in identifying HI in their children. For instance, the fact that only 27% of the parents could identify HI in their children before age 2 years shows that majority of the parents lack awareness of identification skills. The problem cascades down to lack of seeking early intervention help and eventually to late enrolment of their children for ECDE services.

Educational ECDE Services provided to Children with Hi and Its Effect On their Learning

A. Educational ECDE Services

The study findings showed that children in the three schools were exposed to the relevant activity areas in ECDE. That is language, number work, outdoor, science, social studies, creative, music, life skills and Christian Religious Education (CRE). The teachers rated the general performance of the children in 6 of the activity areas as slightly above average. That is, with the exception of social studies and life skills in which the children's performance was below average in one school. CRE, on the other hand, seemed to pose a major problem as the children performance in two of the schools was below average. The teachers had a problem in the mode of helping the children to understand some concepts such as the term "spirit". This shows the need for the learners to have an early start with their teachers in order to instill such concepts. The children were exposed to the relevant activity areas but had problems in grasping some concepts especially those that were not locally available or familiar to them.

According to the data in Figure 1 the general performance of the children can be said to be fairly good. Only four areas basically; language in schools C, Social Studies and Life Skills in school B and Christian Religious Education (CRE) in school B and C were reported to be below average in performance. Teachers in the schools reported that activities in these areas were poorly done due to problems of teaching some concepts especially in CRE. Children in three schools appreciated and performed well in creative activities a while Science on the other hand was fairly done in the three schools.

According to Ndurumo (1993), children with HI should be allowed to follow the regular school curriculum. This shows that exposure to a stimulating environment at an early age can help them improve their performance in the various activity areas effectively. The fact that the learners were able to perform fairly in most of the areas shows that if given an early start in pre-school, they can perform better. Otherwise as long as they are exposed to ECDE when over age, it may not have the intended effect on the children with HI.

B. Effect of Educational ECDE Services

Findings of the study revealed that educational ECDE services have a relatively positive effect on children with HI who benefit particularly in acquisition of social skills, sign language, writing and good discipline. However, only 40% of the parents could identify acquisition of reading in their children. According to Kirk (1972), at the age of 5 years old, a child begins to respond to words and phrases written on flash cards or on the board. He adds that this should be initiated earlier for a child with HI than those without HI since the former relies heavily on vision thus the need for the emphasis on beginning to read at an early age.

Garwood (1983) claims that children in early childhood education receive relevant attention from the professionals in special education. In the case of the children with HI, Bala and Rao (2004) claim that early childhood education helps them to increase self-confidence. Similarly, Kirk (1972) concurs with this by arguing that the schools for children with HI provide opportunities to practice socialization and to develop communication skills and reading.

The parents who were interviewed reported that ECDE had helped their children to acquire various skills which included sign language, writing, reading, social skills, life skills and discipline. These findings have been supported by Vigotsky who points out that instruction helps to bring consciousness and deliberate mastery of the child's abilities. Acquisition of skills that is cited here shows a positive effect of ECDE on children with HI. This indicates that if they can get enrolled early, the effect can be higher. Vigotsky recognizes parents and teachers as tutors of young children. However, an earlier observation shows that parents are usually engaged in paid up job hence they have no time for tutoring the learners and that is why they need to enroll their children at the appropriate time to get tutored by the teachers.

Delay in identification, intervention and consequently in enrolment of some children seems to be affecting their acquisition in reading negatively. In all, apart from social skills where 80% were reported to have benefited greatly, the acquisition of skills in the other areas was average. This implies that given an early start of educational ECDE services, they would be in a better position in the acquisition of major skills in life.

The Role of Parents and Teachers of Children with HI in ECDE

A. Role of parents

The findings show that delays in identification of children with HI spills over to more delays in intervention and linking them to various services such as ECDE. Table 3 shows that only 3 parents, (20%) sought intervention measures for their children with HI before they were 2 years. Out of the 15 parents 8 of them 53% sought intervention measures when their children with HI were age 2-3 years while 1% delayed until the child was over 6 years old. Evidently, Parents are the key role players in their children's welfare. They ensure that their children receive appropriate care and enhanced holistic development (KISE, 2003). However in this study, the role parents' played in identification, intervention and enrolment lacked the urgency they deserve. The findings show that the earliest enrolment was at age 4 years. Delays in identification and intervention were also noted. This implies that majority of children with HI may not be accessing educational ECDE services during the appropriate or developmentally sensitive and critical periods due to delays in identification, intervention and eventually for relevant enrolment or placement. Parental delay in seeking professional help for their children interferes with the teaching and learning process when the children access ECDE when passed the stage appropriate for pre-schooling. The learner's abilities of acquisition of skills are also affected by the delays. This leads to inadequate effect of ECDE.

Findings of this study reveals that , the earliest enrollment for ECDE services was done at age 4 years by only 2 (13%) participants, followed by 1 (7%) at age 5 years . The others, 80% were enrolled at age 6 years and above. Delays in identification and intervention may be as a result of ignorance and denial of parents that their children had HI. However, the children's major delay for appropriate enrolment for ECDE was a result of spending time in regular schools of the hearing children. That is, in school A, 3 out of the 5 respondents had taken their children to regular schools of the hearing, school B also had 3 of them and all of the 5 in school C, meaning 73% of the children spent part of their early childhood years in inappropriate placement, that is, the regular ECDE centres. In these schools, they wasted crucial time that could have been otherwise fruitful in development if they spent it in special schools for the children with HI. According to Hegarty and Alur (2002), pupils with HI in regular classes struggle with social and learning problems which are often overlooked by the teachers in the regular class. Garwood (1983) also points out that, these children may not benefit from regular pre-school educational experiences unlike in relevant special schools where they receive relevant attention from professionals.

Findings about the delays are supported by MoE (2009) which states that one of the challenges that hinder quality services at ECDE level is parental attitude. That some parents view the ECDE programme as unimportant and only meant for children to pass time and grow prior to joining standard one. On the same, MoE (2006) reports that, some parents keep their children at home until they attain the age of 6 years when they join standard one.

On intervention, MoE (2006) report that parents have a major role in early identification for the purpose of assessment and intervention but the findings showed that most of the parents are not keen on identifying the HI in their children early enough to take the necessary action. Various authors have expressed the importance of early identification of disabilities in children by

parents. For instance, Sifuna (1988) declares that a child whose hearing impairment is identified early may experience fewer difficulties in language development. Vigotsky, on the other hand, declares that language is crucial for cognitive development. He also argues that children are capable of higher levels of functioning when given the right help than when they are left without assistance. Thus, parents should take immediate action as soon as they identify HI in their children in order to acquire language before the onset of language development age, i.e. 2 years and consequently help them to benefit from ECDE. Therefore, if delayed to acquire language, this development is limited and hence ECDE may not have the intended effect on children with HI.

Kirk (1972) states that schools for children with HI admit them when they are as young as 2 ½ to 3 years of age. This he says helps to offer various services as a means of intervention. Bloom (1964) concurs with this by claiming that 3 years old children profit more from enriching experiences than 7 or 8 years old children. He adds that 2/3 of a child's ultimate cognitive ability is formed by the time he/she is 6 years old, this is the age when children enter school. Thus, an early exposure to ECDE can produce more benefits or adequate effect on children with HI.

B. Roles of Teachers

Findings revealed that adequate coverage of the syllabus was a challenge in all the three schools. This not only hinders the teacher's efforts but also limits enhancement of skills in children. Although Ndurumo (1993) argues that children with HI should be allowed to follow the regular school curriculum, implementation on the ground seems to be challenging to the teachers.

The teachers reported that the inadequate coverage of the syllabus observed was mainly caused by the status of children's auditory abilities, and their being in different levels of ability though in the same classes due to late enrolment while others were overage.

For ECDE to have the intended effect such as laying a firm foundation for the children, it is important to have an adequate coverage of the syllabus. This can only be possible when the learners have adequate time with their teachers during their critical (3-6) early childhood years. Exposure of children to ECDE activities late in the term when over age interferes with teaching, learning process and lack of acquisition of skills at the appropriate time in their lives. This is in line with Vigotsky's theory which shows that a good education stresses on what children can do with the appropriate help as their capability begins to emerge. It states that concentrating on what children can do without help under values the emerging competencies. Therefore, children need to be provided with early stimulation in schools by their teachers in order to have a rewarding effect of ECDE.

Teachers on the other hand, played the role of teaching, developing materials, keeping records, monitoring behavior and taking case history of children with HI. All the teachers in the special schools were trained in SNE. Hence, they carried their roles effectively. This indicated that if given adequate time with the children, these teachers were professionally equipped and could play their roles effectively.

Constraints Experienced by Teachers of the Children with HI in ECDE

A closer look at constraints in fig 3 shows that, 4 out of 7 were related to delays in early identification, early intervention and enrolment. Hence, if children with HI can be identified and placed early enough over half of the constraints would be done away with. This would in turn lead to greater effects of ECDE services to the children with HI. Vigotsky points out that language is crucial to the development of one's thought process as children learn through social interaction with a skillful tutor. This shows that children need to access ECDE early in order to be introduced to a common sign language to curb these constraints which can cause hindrances in effective ECDE.

The study shows that there were some constraints that are a hindrance to the teachers' efforts in teaching. These included large classes, children with multiple disabilities, late enrolment, short concentration span, wide age differences, language/communication problems and wide differences in ability. Out of these constraints communication/language problem was the leading. This constraint was experienced by the teachers in all the three schools. This implies that the effect of ECDE on children is hindered by communication problems since effective learning can only be realized through interaction between the teachers and the learners.

Conclusion

Findings of this study have highlighted various issues concerning the effect of ECDE in schools for children with HI. From findings of the study it was clear that most children with HI are enrolled for ECDE services when they attain the age of 6 years and above. According to MoE (2006) standard guidelines pre-school years are from 3 - 6 years of age. This study showed that majority (73%) of children with HI spent part of their early childhood years in regular pre-schools/ECDE centres. Then these same children are later placed in the special schools for HI and enrolled for ECDE services at age 6 years and above. Therefore, most children with HI are missing ECDE services during the appropriate/ crucial (3-6) years of development.

The research study also portrayed that children with HI were being offered the required educational ECDE services as recommended by MoE in conjunction with KIE. However, social studies, life skills and religious education posed challenges due to lack of well-defined concepts, for instance, the concept of the term "spirit" in religious education. The children are exposed to the appropriate activities in ECDE but unfortunately, this is done when most of them are well past the age of ECDE level. Thus, lack of exposure to the learning activities at the appropriate time, denies them enough experience and hence limits their general performance. This indicates that if enrolled for ECDE activities in the appropriate schools at the appropriate time they would benefit much more.

ECDE was also found to be of great importance to the development of children with HI. The learners acquired skills in various areas that included sign language, writing readiness, reading readiness, social skills, life skills and good discipline. Most children benefit a lot in acquisition of social skills. However, less than half acquire reading skills at ECDE level. Kirk (1972) points out that at age 5 years, the child begins to respond to words or phrases written on flash cards or on the board. This kind of reading he says is initiated earlier with children who have HI than those without, since the former rely heavily on vision. Therefore, acquisition of reading skills

may be hampered by lack of initiating reading to the children at an early age. A focus on the roles played by the parents and teachers showed that the teachers were trained for SNE and had done a unit on ECDE in their SNE course. They played their roles effectively but had problems in the use of one of the recommended teaching/learning methods that is thematic approach.

Adequate coverage of the syllabus was challenging to the teachers due to various constraints among which language/communication problem was the major one. This confirms an earlier observation by Allen (2002) that a child with hearing impairment may never acquire adequate communication skills if the hearing loss is not treated prior to the critical period for language development. This indicates that acquisition of adequate communication skills by the children was being hampered by the delayed intervention.

Majority of the parents had not played their roles effectively. Major delays in identification of their children's HI, seeking for intervention and enrolment for ECDE services were noted. Majority of children were enrolled for ECDE services at age 6 and above when they should be joining standard one.

Although the government and the teachers are playing their parts effectively in offering educational ECDE services to children with HI, the intended effect is yet to be felt. The parental participation and support are not adequate which leads to children lacking crucial preparation at ECDE level. Precious time when the children's critical periods of intellectual development are at the peak is spent by majority of the children in regular pre-schools. In these schools, they struggle with social and learning problems. Eventually, the children are enrolled for ECDE educational services in special schools when over age and this interferes with their access of ECDE services during the required (3-6) early childhood years. Consequently adequate and appropriate preparation of the children is curtailed. Although the teachers expose the children with HI to the relevant ECDE service, the effect on the children is limited.

Recommendations

To realize a positive effect of ECDE on children with HI, various stakeholders need to play their roles effectively. These include the Ministry of Education, teachers, the parents, the non-governmental organizations, the health service providers and assessment officers.

Ministry of Education (MoE)

- Owing to the large number of children with HI who do not access ECDE services during the early childhood years, the MoE needs to make ECDE compulsory for all children between 3-6 years. This is to ensure that all the children access ECDE services at the developmentally appropriate time.
- Organize ECDE in-service courses for the teachers of children with HI. This will equip them with teaching methods in ECDE such as thematic approach which is still elusive to them.
- Deploy teachers trained in SNE to regular schools to help identify and cater for children with HI.

Head-Teachers and Teachers'

- The school management committees should focus on ways to help the learners to acquire a common sign language.
- Programme on seminars for parents should be organized to learn sign language.
- Teachers can also organize opportunities for remedial teaching of sign language in order to reduce the problem of communication in learning and teaching.
- Organize and create awareness to parents on how to identify a child with HI early and the importance of early intervention/placement.

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Bringing ABA into Early Childhood Routines to Meet the Needs of Young Children with ASD

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Abstract

It is well documented that applied behavior analysis (ABA) approaches to intervention for young children with ASD have a strong evidence-base. Although federal special education law mandates that early intervention services and supports be implemented within the natural environment to the maximum extent appropriate, many young children with ASD still receive ABA interventions in clinical and therapeutic settings and contexts. This article discusses the value of using ABA interventions with the contexts of everyday home, school, and community routines with young children with ASD through the use of routines-based interventions (RBI) and provides guidelines for doing so.

Bringing ABA into Early Childhood Routines to Meet the Needs of Young Children with ASD

It is well documented that young children with autism spectrum disorder (ASD) require early intensive behavioral intervention to address their core deficits and to enhance their development. Applied behavior analysis (ABA) teaching approaches with young children with ASD have a great deal of empirical support. The two approaches with the greatest evidence base include discrete trial training (DTT) and pivotal response treatment (PRT). See Table 1 for an overview of these ABA approaches.

Table 1
Overview of DTT and PRT

ABA Approach	Brief Description	Evidence-Base http://autismpdc.fpg.unc.edu/content/briefs	Seminal Studies with Young Children with Autism
Discrete Trial Training (DTT)	A one-on-one, teacher directed, systematic instructional approach that utilizes repeated trials of the A-B-C teaching sequence (antecedent-behavior-consequence). Prompts are delivered to ensure successful responses and	Most effective for children ages 2-9 for promoting the development of communication/language, adaptive behavior, cognitive/academic skills, social and play skills, and for reducing interfering behaviors.	(Lovaas, 1987); (McEachin, Smith, & Lovaas, 1993)

Pivotal Response Training (PRT)	systematically faded out. PRT builds on learner initiations and interests and targets four pivotal behaviors: motivation, responding to multiple cues, self-management, and self-initiations. PRT is often implemented in natural settings and involve following the child's lead, provided the child with choices, using natural reinforcement, and accepting varied responses.	Most effective with children ages 2-16 for developing communication, language, play, and social behaviors.	(Koegel, Dyer, & Bell, 1987); (Koegel, Koegel, Surrat, 1992)
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Although there is a great deal of evidence to support the use of ABA interventions with young children with ASD, practitioners face challenges with systematically planning these interventions so they can be implemented within the natural environment during the child's everyday routines. Federal special education law mandates that early intervention services and supports be implemented in the natural environment to the maximum extent appropriate (IDEA, 2004). Natural environments include settings, routines, and activities that are natural or normal for the child's same-age peers who do not have disabilities. Examples of natural environments include: 1) care-taking routines such as dressing, bathing, eating, and grooming, 2) community-based settings such as parks, playgrounds, beaches, libraries, movie theaters, and shops, and 3) play routines such as blocks, puzzles, pretend play, arts and crafts, and physical play. While the natural environment mandate has been in place since 1997, in many cases, young children with ASD still receive early intervention ABA services using a DTT approach outside the contexts of natural environments, either in clinical settings or within home-based ABA programs that are not implemented within everyday routines and activities. Although PRT is designed for implementation in the natural environment, procedures for assessing everyday routines and activities to develop routines-based ABA interventions based on caregiver priorities are not included in the PRT literature (Koegel & Koegel, 2006).

While research shows positive outcomes of caregiver-implemented routines-based interventions for young children with disabilities (Campbell & Sawyer, 2007; Dunst, Bruder, Trivette, Raab, & McLean, 2001; Woods & Kashinath, 2007), there are few studies focused on using ABA interventions in the natural environment to provide the intensive interventions that young children with ASD often require. In their 2006 study with five young children with autism and their caregivers, Kashinath, Woods, & Goldstein demonstrated that caregivers can be trained to successfully implement behavioral teaching strategies (ex. time delay, environmental arrangements, and natural reinforcement) within the child's everyday routines and activities. However, there are no studies to date that examined the use of using routines-based assessments and parent priorities to plan and implement intensive ABA interventions within the everyday

routines and activities of young children with ASD. Practitioners need more literature with specific guidelines for planning comprehensive ABA intervention programs that will be implemented in the natural environment and are driven by ecological assessments of everyday routines and activities and the priorities of caregivers. This paper discusses methods for designing and implementing intensive ABA interventions for young children with ASD within the natural environment using a Routines-Based Intervention (RBI) approach.

Routines-Based Intervention (RBI)

Leaders in the field of early intervention advocate for the use of natural environment interventions when supporting young children with disabilities as a response to research indicating that everyday family and community routines and activities provide young children with an optimal variety of learning opportunities (Dunst, Hamby, Trivette, Raab, & Bruder, 2000). One approach to providing early intervention services and supports in the natural environment is RBI. Recently, Robin McWilliam published a book that provides guidelines for effectively implementing RBI including assessment, goal setting, and intervention procedures (McWilliam, 2010). He discusses how to assess the everyday routines and activities of children and families to then plan systematic interventions throughout the child's day to take advantage of the multiple learning opportunities available within the contexts of everyday home, school, and community routines. Within this framework, children receive intervention in meaningful contexts focusing on developing skills needed to thrive in real world settings. This results in higher levels of motivation and generalization of learned skills than when children receive therapy in clinical settings or outside the context of everyday routines. It also empowers caregivers to be confident and competent in meeting the development needs of their children, which is the main purpose of early intervention services. The role of early intervention providers must be to provide coaching and modeling to caregivers to equip them with strategies and techniques they can use every day to help their children learn during naturally occurring routines and activities.

RBI and ASD

Because ABA interventions have been widely used for young children with ASD since the 1990's, practitioners may not consider the use of RBI for these children. They may not recognize that ABA interventions can actually have more impact if they are implemented within an RBI framework. Children with ASD often have difficulties with motivation and generalization when receiving interventions such as DTT outside of the contexts of everyday routines (Lovaas, 1977; Spradlin & Siegel, 1982). For that reason alone, it would be worthwhile to consider implementing ABA interventions within everyday routines and activities that are potentially more motivating than therapeutic contexts and are likely to enhance generalization since the children learn new skills within the actual contexts they will use them. The main differences between RBI for young children without ASD and those with ASD is that children with ASD often need more intensive interventions planned. According to the Nation Research Council (2001), children with ASD need at least 25 hours per week of intensive interventions. These students require specific interventions related to their social communication deficits in addition to addressing other developmental domains, and they often require the use of ABA

teaching procedures to fully benefit from the interventions implemented within their everyday routines and activities.

Merging RBI and ABA

Merging RBI and ABA can be quite challenging for practitioners especially if they do not have specific guidelines to follow. Step-by-step procedures for conducting assessments, setting goals, designing and implementing interventions, and monitoring progress are provided as structure interventionists can use when merging RBI and ABA to meet the needs of young children with ASD. Each procedure will be illustrated using the following vignette as a reference:

Vignette: Jacob is a three-year-old boy who lives with both of his parents and his five-year-old sister. He attends a community preschool three mornings each week. Jacob was diagnosed with autism just before he turned two years old. He enjoys puzzles, playing with toy trains, swinging, being tickled, having people chase him, and looking through books. He has strengths in verbal imitation, letter and number identification, and following simple directions. Jacob's parents indicate they would like to see Jacob more socially engaged with the family throughout the day, using more expressive communication, and playing appropriately with a variety of toys independently. A systematic approach of merging RBI and ABA will be used to design a comprehensive intervention program to address the parents' priorities and improve learning outcomes for Jacob.

Conduct Assessments

A variety of assessments should be conducted to gather as much information as possible so that developmentally appropriate and meaningful goals can be set. First, the strengths and interests of the child should be assessed so that a strengths and interests based approach can be used when planning interventions. When providing interventions in the natural environment, a strong emphasis should be placed on tapping into the child's interests to increase active participation in everyday activities (Dunst, Trivette, & Masiello, 2011). By definition, children with ASD have a restricted range of interests (APA, 2000). Therefore, it is important to use the interests they do have to motivate them to engage in everyday routines and learning activities and to expand on their current interests to increase their repertoire of preferred topics and activities. Questions that can be asked of caregivers related to a child's strengths and interests might include: (a) What makes your child happy? (b) What about your child makes you proud? (c) What are your child's favorite times of the day? (d) What are some things your child would not want to live without? (e) How does your child prefer to spend his/her time? (f) Who does your child prefer to spend time with and why? (Leach, 2012). As you read in Jacob's vignette, he has many strengths and interests that can be accessed and built upon when designing and implementing ABA interventions during everyday routines. For example, since he has strengths in verbal imitation, his family can work on getting him more socially engaged by having him imitate words and phrases during the bath time routine. His family can join him when he is looking through his books and work on building his expressive communication skills by teaching him how to respond to comments about the pictures on the page and initiate his own comments to share his enjoyment with others.

Since the purpose of RBI is to implement interventions within ongoing home, school, and community routines, practitioners must determine which routines occur often enough to allow for consistent intervention each day. Once routines are selected for intervention, ecological assessments of the routines can be conducted. Ecological assessments provide information about how the environment may influence a child's performance and information about skills that are needed within certain contexts (Haney & Cavallaro, 1996; Wolery, 2002). It is important to assess any problem behaviors that are occurring and the child's independence, use of communication skills, and levels of social interaction within the routines to determine skills to target when setting goals. Table 2 shows an ecological assessment of Jacob's participation during mealtimes with his family. Table 3 shows an ecological assessment of Jacob's participation in read aloud at preschool. The format was adapted from the book *Bringing ABA to Home, School, and Play for Young Children with Autism Spectrum Disorders* (Leach, 2012).

Table 2
Ecological Assessment of Jacob's Participation in Mealtime

Question	Mother's Response
What does the mealtime routine typically look like?	<i>When it is time to come to the table, I will say, "It's time to eat." I then have to tell Jacob to go get in his chair. He is able to get in his booster seat by himself. During dinner, Jacob doesn't engage much with the rest of the family. My four-year-old daughter likes to play games such as twenty questions at the dinner table, and we often play games and talk to her. Jacob will eat his food independently. If he wants more, he will usually cry. I will ask him if he wants specific items. When I ask about the item he wants, he will stop crying. That is how I know what to give him more of. When he is finished eating, he will whine until I let him down. I have to help him out of his chair because he cannot undo the buckle on the booster seat.</i>
How does Jacob communicate during the routine?	<i>He whines or cries to let us know he wants something. If I hold up two things, he will reach for what he wants. Jacob will imitate words and phrases such as, "all done," "more chicken," and "apple juice."</i>
How does Jacob socially engage with others during the routine?	<i>Sometimes he will laugh when my daughter is laughing. Other than that, he doesn't engage much with others at the table at all.</i>
What can Jacob do independently during the routine?	<i>He can finger feed himself. He can drink out of a sippy cup. He can get into his booster seat by himself. He can get out of his seat after I unbuckle him.</i>

Does Jacob engage in any challenging behaviors during the routine?	<i>He cries to get more food or more juice and to get out of his seat. He only sits at the table for approximately ten minutes. Once I let him down, it disrupts the rest of the meal for everyone else because I cannot leave Jacob unattended.</i>
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Table 3

Ecological Assessment of Jacob's Participation in Read Aloud at Preschool

Question	Teacher's Response
What does the read aloud routine typically look like?	<i>I call the children to the carpet for read aloud. Jacob needs to be brought to the carpet. When I read the story, I will often stop and ask the children questions. Jacob is unable to answer any questions and often attempts to leave the carpet area. Sometimes he is redirected easily, other times he has a tantrum.</i>
How does Jacob communicate during the routine?	<i>Jacob will point to pictures in the book if I ask a simple question such as, "Where is the dog?" and provide physical prompts.</i>
How does Jacob socially engage with others during the routine?	<i>Sometimes Jacob will imitate what a peer says. Sometimes he will imitate gestures with the whole that go along with the story.</i>
What can Jacob do independently during the routine?	<i>He can sit independently for about a minute before he wants to leave the carpet.</i>
Does Jacob engage in any challenging behaviors during the routine?	<i>He will continually try to leave the carpet area, and may have a tantrum when we try to redirect him back to the carpet.</i>

Set ABA Goals

Based on the assessment information gathered, practitioners can collaborate with caregivers to set meaningful goals for ABA interventions. After the ecological assessments are conducted for the routines that will be targeted for intervention, the interventionist can determine caregiver priorities for each routine. Sample questions that can be used to determine priorities include:

1. What communication skills would you like your child/student to learn during the routine?
2. What social interaction skills would you like your child/student to learn during the routine?
3. In what ways would you like to see your child/student become more independent during the routine?

4. What positive behaviors would you like your child/student to display during the routine?

Once the caregiver priorities are assessed, goals for ABA interventions for each targeted routine should be set. These goals should be observable, measurable, developmentally appropriate, positively stated, and include criteria for mastery. With ABA interventions, data are collected regularly to monitor progress. Thus, the goals should be short term to allow for immediate progress as result of intensive ABA interventions. Table 4 shows the caregiver priorities for Jacob for the two routines assessed with ABA goals linked to those priorities. Caregivers may choose to work on only one goal at a time or choose to work on several goals during each routine.

Table 4
Caregiver Priorities and ABA Goals

Caregiver Priorities	ABA Goals
<i>Mealtime (Home)</i> Ask for more food or drink using words instead of crying. Point to pick what he wants to eat or drink when given a choice. Play games with the rest of the family during mealtimes. Stay at the dinner table until everyone is finished.	1. When given a choice of two items, Jacob will point to the item he wants independently for five consecutive meals. 2. When Jacob wants more food or drink, he will say “more” independently for five consecutive meals. 3. When playing 20 questions, Jacob’s sister will use pictures to select items. Jacob will imitate his sister at least 80% of the time when she says the item on the picture after someone guesses it or runs out of questions. 4. When Jacob is finished eating, he will stay in his seat and choose an interest-based activity (ex. puzzle, read a book, play with trains) to engage in while he waits for everyone to be finished for five consecutive meals.
<i>Read Aloud (School)</i> Sit for longer periods during read aloud. Participate by pointing to pictures, naming items in the book, and regularly imitating gestures and actions during the read aloud activity.	1. When given a copy of the book the teacher is reading, Jacob will sit on the carpet and follow along with the teacher for at least half of the read aloud activity for five consecutive school days. 2. Jacob will imitate at least 80% of gestures and actions during read aloud activities for five consecutive school days. 3. Jacob will answer simple questions such as “What is this?” “Who do you see?” when the teacher points to the picture in the book at least three times during each read aloud activity for five consecutive school days.

Develop ABA Interventions

Once goals are set, ABA interventions are then developed using a variety of behavioral teaching strategies. The procedures are written down in a step-by-step fashion to provide clear directions for all caregivers who will be implementing the interventions with the child. Interventions usually combine a variety of strategies including, but not limited to, positive reinforcement, following the child’s lead (Koegel, Koegel, Harrower, & Carter, 1999), time delay (Halle, Marshall, & Spradlin, 1979, Ledford, Gast, Luscre, & Ayres, 2008; Liber, Frea, & Symon, 2008;

Snell & Gast, 1981), embedded discrete trials (Lovass, 1987; McBride & Schwartz, 2003; Whalen & Schreibman, 2003), shaping (Cooper, Heron, & Heward, 2007), prompting/fading procedures (Taylor & Harris, 1995; Wolery & Gast, 1984), peer-mediated interventions (Garfinkle & Schwartz, 2002; Pierce & Schreibman, 1997), and task analysis/chaining (Shrestha, 2013; Spooner, 1984). Table 5 shows an example of an ABA intervention for one of the goals for Jacob's mealtime routine. Table 6 shows an example of an ABA intervention for one of the goals for the read aloud routine at school.

Table 5

ABA Intervention for Mealtime Routine

Goal: When given a choice of two items, Jacob will point to the item he wants independently for five consecutive meals.

Teaching Procedures:

1. Present two food or drink items of holding them at eye-level while you're face-to-face with Jacob. Say something such as "Which one do you want?" or "Pick one." Make sure you don't say the same thing every time or Jacob may get dependent on that as a prompt. Sometimes you may not need to say anything because holding up two items is an indicator that he can choose one.
 2. If Jacob points to a desired item, provide positive reinforcement by giving him the item selected.
 3. If Jacob does not point to any item, restate the request and use time-delay (wait with an expectant look).
 4. If still no response, use the following least-to-most prompts hierarchy (with each opportunity, begin with the least intrusive prompt you think Jacob needs and increase prompting if needed):
 - a. Restate the request and push both items closer to encourage Jacob to point to one.
 - b. Restate the request and move one item forward that you think the child would want and the other item back.
 - c. Use modeling/request imitation by pointing to an item and then encourage Jacob to do the same.
 - d. Use gentle physical guidance (i.e. tap Jacob's hand, gentle move his hand, lightly form his hand into a point).
 5. Provide positive reinforcement even if Jacob responded with a prompt(s).
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Table 6

ABA Intervention for Read Aloud Routine

Goal: When given a copy of the book the teacher is reading, Jacob will sit on the carpet and follow along with the teacher for at least half of the read aloud activity for five consecutive school days.

Teaching Procedures:

6. To increase the Jacob's motivation to sit during read aloud, allow him to choose the book that is going to be read before the other children are called to the carpet. Once the book is chosen, give a copy to Jacob and then ask him to go to the carpet.
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7. Use peer-mediated interventions by selecting a few peers who can learn how to share Jacob's copy of the book during the read aloud and help Jacob stay on the correct page. This training should be done separate from read aloud so Jacob learns to share the book with a peer without causing disruption to the read aloud activity. Each day, select a different trained peer to sit with Jacob during read aloud. The peers can learn strategies such as:
 - a. Pointing to the words as the teacher reads to keep Jacob on the correct page.
 - b. Providing quiet verbal prompts such as "turn the page," or "don't turn yet."
 - c. Using positive reinforcement by smiling at Jacob and whispering positive comments when Jacob remains seated and stays on the correct page.
 8. If Jacob does not respond well to the peers, you can leave out step 2 and simply have Jacob sit independently with a copy of the book. He may go ahead in the book and not follow along with the teacher in that case. Allow him to do so to prevent frustration and tantrum behaviors.
 9. The teacher should deliver positive reinforcement to Jacob throughout the read aloud activity if he remains seated with his copy of the book.
 10. Use shaping by gradually increasing the amount of time Jacob is expected to sit during read aloud. If he tries to leave the circle before the time expected, positively redirect using gestures, picture cues, or gentle physical assistance if necessary. If he is unable to be positively redirected, remove him from the group and slightly decrease the time expected for him to sit during the next read aloud. If he is able to sit for the time expected, slightly increase the expectation the next time.
-

Implement Interventions

Before caregivers can be expected to successfully implement the interventions, they must receive training explaining all of the teaching procedures. This should include having the caregivers role-play the interventions receiving immediate feedback from the practitioner. There should be opportunities for modeling and ongoing coaching until caregivers are consistently able to implement the interventions successfully with fidelity. Video-stimulated recall can be used during the coaching phases. Caregivers videotape themselves implementing interventions. At a later time or day, the caregivers watch the videos with the practitioner to point out what they are doing well and what they can improve upon, and they receive additional suggestions from the practitioner (Leach & LaRocque, 2011).

Monitor Progress

Ideally, data are collected on a daily basis to monitor the child's progress when implementing ABA interventions. This may sound unrealistic for caregivers to do, but if the data collection procedures are easy to use, this can be possible. Caregivers can be trained to use level of independence data in which they simply record how much prompting the child needed to perform the skill on average throughout the day. They can also use yes/no data in which they indicate whether or not the child performed the skill independently that day. Other data collection methods caregivers may be able to use include frequency data and percentage data

when possible. Practitioners should review data weekly or bi-weekly to determine when goals have been mastered and to respond to any lack of progress and make changes accordingly.

Conclusion

This article provides a framework that early intervention providers can customize for the children and families they work with when designing and implementing ABA interventions in the natural environment. It is imperative that we increase opportunities for young children with ASD to be fully included across home, school, and community contexts to improve their quality of life and to enhance their development. Merging ABA interventions and RBI provides a way for children to receive the intensive interventions they need without missing out on the learning opportunities that are available within the natural contexts of everyday routines. This also has potential to increase the motivation of young children with ASD to learn and engage with others by providing intervention within routines in which they are comfortable and by tapping into their strengths and interests when teaching new skills. Most importantly, generalization will not be nearly as difficult for young children with ASD if they are learning meaningful skills within the contexts they will regularly use them.

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Perceptions of Pre-Service Teachers As They Relate to Professional Practice

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Abstract

The purpose of this study was to explore the beliefs and concerns of pre-service teachers as they relate to professional practice during their practicum experience. This study took place in a minority-serving university in the Southwest. All activities were conducted during one academic semester and held during the weekly on-campus seminars. The participants were a convenience sample of 13 pre-service teachers enrolled in dual licensure programs (elementary/special education and secondary/special education). Pre/post surveys, interviews, and focus groups were used to triangulate the data. Responses to questions posed during focus groups, interviews, and questionnaires were explored thematically. The results indicated that pre-service teachers maintained a positive attitude toward their students, projected an understanding of their students and their disabilities, and recognized the challenges that students with disabilities face.

Perceptions of Pre-Service Teachers As They Relate to Professional Practice

Pre-service teachers enter their practicum experiences with strong beliefs about teaching and learning. Their individual differences lead toward establishing a teaching style that is unique and incorporates a variety of pedagogical strategies and materials that may or may not be appropriate for the population of students with whom they will be working (Aka & Yildirim, 2011). Transitioning from their role as university student to a professional in the classroom remains challenging. Pre-service teachers become confused between wanting to be a friend and maintaining a professional role as a strong, effective teacher and role model. Often, pre-existing knowledge is quite different from the reality of the structure of the public school classroom and may lead to bias and misconceptions.

There is an importance to gaining insight into the way pre-service teachers perceive their roles and present themselves in the classroom (Aka & Yildirim, 2011). Practicum experiences provide opportunities for pre-service teachers to think about teaching, their roles as professionals, how to apply theory to practice, and the importance of developing a classroom culture that reflects a strong learning environment (Cakmakci, 2009; Collier, 1999 Tarman, 2012). “Regardless of what beliefs prospective teachers hold, one may wonder about the extent to which prospective teachers’ initial beliefs are subject to change by the experiences they gain in teacher education programs...” (Tarman, p. 1).

Since No Child Left Behind (NCLB) was passed in 2002, the “quality of teachers in our public schools” (Alawiye, 2001, p. 1) have become a major topic in education. Efforts to make teachers accountable have distracted from the needed improvement of teacher preparation programs. Special education teacher preparation programs at colleges and universities across the country have been restructured over the past decade to recruit and prepare more teachers in order to meet the growing needs of school districts. Dual licensure programs, alternative licensure programs, and internships have been created to increase the number of licensed teachers in special education classrooms who work with children with disabilities.

Since the program of choice for children with disabilities is inclusion, more students are continuing to receive special education services in the general education classroom. Hence, there is a need to actively recruit and retain qualified individuals into the field of special education. In addition, it is important to mentor pre-service teachers enrolled in teacher education programs and investigate their perceptions related to professional practice as they enter into their practicum experiences.

There is a wealth of information in the literature that focuses on (a) pre-service teachers on reflective practices (Christensen, Wilson, Sunal, Blalock, St. Clair-Shingelton, & Warren, 2004; Greiman & Covington, 2007); (b) the perceptions of pre-service teachers on content delivery (McLeman & Cavell, 2007); (c) perceptions of pre-service teachers on teaching (Coughlin, 2001), and (d) perceptions of teachers on the integration of technology (Knight, Pedersen, & William, 2004; Lipscomb & Doppen, 2004/2005). However, very little information is available on pre-service teachers’ perceptions of their cooperating teachers, the students with whom they will work, and the families of those students.

The purpose of this study was to explore the beliefs and perceptions of pre-service teachers during their practicum experience as they relate to professional practice. Responses to questions posed during focus groups, interviews, and questionnaires were explored. Emerging themes were analyzed using a coded system (Bogden & Biklen, 1998).

Research Focus

The focus of Teacher Education Programs in higher education is to prepare effective candidates who are highly qualified and able to engage students in the learning process, reflect on their practice, move toward praxis, and remain highly qualified in their field. Therefore, preparing pre-service teachers to address the diverse population of children in the classroom challenges the

teacher education program to prepare teachers who can address the needs of all students (Burriss & Burriss, 2004).

In 1990, 2.4 million teachers were employed in general and special education; by 2001, this number grew to 3.0 million teachers (USDOE, 2004). The Bureau of Labor Statistics (2006) reported that 441,000 special education teachers were hired during 2004, while 534,000 will be needed by 2014. The anticipated growth rate remains at approximately 22%. Unfortunately, 6,452 employed special education teachers were not highly qualified by the NCLB standards as compared to 5,762 general education teachers (USDOE, 2006). Generally, teaching jobs are at risk. “Nearly 300,000 educator jobs have been lost since 2008 representing 54% of all job losses in local government” (NEC, 2011, p. 1).

“Teacher attrition is a significant problem facing schools, with a large percentage of teachers leaving the profession within their first few years” (Sass, Flores, Claeys, & Pérez, 2012, p. 1). Young teachers, new teachers, and male teachers were most likely to leave the profession early on in their careers. African American teachers were at greater risk of leaving the teaching profession while Hispanics were more likely to remain. Hence, the teacher shortage in our country is not necessarily due to the inadequate supply of teachers but to the high rate of teacher turnover due to job dissatisfaction, increasing student enrollments, transfers, and retirement (Ingersoll, 2001). To contribute to this bleak state of affairs, teacher attrition in education and special education, in particular, is high.

When pre-service teachers become in-service teachers, they often are inundated by the duties required of the special education teacher that interferes with direct teaching delivery. The seemingly never-ending list of responsibilities often overwhelm new teachers to the point that they leave the field before they develop relationships with mentors and colleagues within their school or become master teachers themselves. Currently, the attrition rate in the United States is between 30% and 50% among pre-service teachers in the field for service less than five years (Alliance for Excellent Education, 2005; Darling-Hammond, 2006). In order to address this increasing attrition rate and improve teacher preparation, faculty in schools of education need to have a clear idea of what pre-service teachers need from practicum and internship experiences (Darling-Hammond, 2006) in order to prepare them to work with students with disabilities and those from diverse backgrounds.

Research Context

Special Education teachers possess unique abilities and dispositions as well as specialized understanding, which enable them to connect with and teach children with disabilities. However, little attention has focused on the perception of pre-service teachers in terms of how they perceive the children and families with whom they will be working.

Teacher education programs prepare pre-service teachers using reflective activities where they identify how their life experiences have shaped their perceptions about the world. They also ask pre-service teachers to reflect on their preparedness for the teaching field. At the university where this study took place, pre-service teachers were asked to reflect on their program activities and align their reflective comments to the components of the College of Education’s conceptual framework. Those components included: pedagogical knowledge, classroom management, assessment, communication skills, technology skills, and the ability to work with diverse

learners. More recently, the introduction of formal disposition surveys has added to the student and faculty evaluation process. It is appropriate that pre-service teachers develop the ability to analyze how their personal perceptions may vary, even be contradictory, from others and to determine how this information may influence classroom practice (Burris, 1996; Serdyukov & Ferguson, 2011).

The disposition survey categories include:

Change Agent - A person whose presence or thought processes cause a social, cultural and/or behavioral change as a result of deliberate actions or as a result of his/her own behavior. This person has the conviction to state facts based on evidence, even when/if the consequences are unpleasant.

Collaborator – A person who can work with and respond to others to achieve a common goal. This individual recognizes and seeks situations that benefit from collective decision making, encourages the sharing of opinions, contributions and commitments among team members.

Ethicist – An individual with integrity who is honest in all areas of school, work, and life, and who is moral in interactions across time. This individual speaks of and acts out of professional and personal ethics in the areas of research, teaching, and the treatment of others.

Humanist – A person who exhibits fair-mindedness, objectivity, imagination, openness to new experiences, and the courage to change his/her mind in light of further experience. This individual demonstrates dignity for others and seeks solutions to human social and cultural problems (NMSU-SPED/CD Dispositions Form).

Field Experience

There are many factors that influence pre-service teachers' professional development. For example, the perceptions of their role as a practicum or student teacher; their perceptions of their cooperating teachers; the cooperating teachers' beliefs and values; personal and professional attitudes; student attitudes; and the anticipation of their first year as a certified teacher. Positive perceptions of the mentor teacher, students, and individual abilities to teach often are highly correlated to their plans to stay in the profession and strengthen their commitment to the teaching field. Articles in the literature reveal that strong pre-service' teacher preparation programs and those including field experiences (a minimum of 10 weeks) have contributed to lower teacher attrition rates (Connelly & Graham, 2009; Darling-Hammond, Chung, & Frelow, 2002).

Darling-Hammond et al. (2002) cited the National Education Statistics report that stated 29% of new teachers without practicum or field experience left the field within five years as compared to 15% of new entrants who did engage in a practicum or field experience. This report also noted that 49% of uncertified new teachers left the field within five years as compared to 14% of newly certified teachers. Additionally, Darling-Hammond et al. reported that the California State Board of Education found that 40% of teachers working on an emergency permit left the field after one year. These high teacher attrition rates underscore the need for quality pre-service training and

call on us, as teacher educators, to look at pre-service teachers' perceptions prior to and during their initial placements in the classroom.

Often, the pre-dispositions that pre-service teachers bring to teaching are a much more powerful socializing influence than either pre-service education or later socializing in the workplace (Johnson, 2002). Pre-dispositions affect how pre-service teachers react and relate to their mentor teachers, students, and parents. Culture, language barriers, gender, behavior, and self-efficacy also play a large role in developing, effective teachers. Thomas and Pederson (2003) cite the common maxim that "one teaches the way one is taught" (p. 319). Some continuing research indicates that teacher preparation programs have had little impact on the beliefs and practices of pre-service students (Pajares, 1992; Pourdavood, 2002), while other research indicates that the lack of support given to teachers in general is a major roadblock to molding positive perceptions about teaching (Chellman, 2000; Hausfather, 2001; Moore, 2003).

Stuart and Thurlow (2000) argued that without a challenge to currently held beliefs and perceptions, change is unlikely since pedagogical abilities stem from teacher philosophies of teacher and learning, which is fundamentally set in deep-seated beliefs. Nespor (1987) suggested that change is most likely to happen when a "conversion or gestalt shift" occurs (as cited in Stuart & Thurlow, 2000, p. 117). Hence, the focus is to use reflective practices so that pre-service teachers can make sense of their lived experiences with traditional teaching. "There is no problem in assimilating new information and ideas which fit with this world-view, but we find it increasingly difficult to accommodate to new stuff" (Piaget as cited in Atherton, 2011, p. 2). Pre-service teachers need to connect emotionally to the needs, culture, language barriers, gender differences, and behaviors of children in order to grow professionally. Pre-service teachers must recognize that, by examining their own beliefs, they will maximize their own teaching effectiveness (Stuart & Thurlow, 2000) by better knowing oneself.

Hausfather (2001) argued that it is in early field experiences where pre-service teachers begin making new connections between personal characteristics, beliefs, goals, and actions. Each person brings different relationships and different skills and understanding of the world with him or her to the classroom. When master teachers recognize the importance of supporting individual pre-service teachers' growth in the field experience, pre-service teachers move forward in their professional development as teachers. Hausfather also stated that, in a successful field experience, all stakeholders must be able to recognize the individual goals of the pre-service teachers and identify their role in supporting the attainment of those goals. When pre-service teachers are presented with alternate ways of teaching, if done in the proper context, it can serve to motivate them to maintain effective pedagogical views.

Few studies were found that reported the perceptions of pre-service teachers as they related to their mentor teachers, their perceptions of their students or their students' parents prior to entering the classroom. Glenn (2006) reported that pre-service teachers do see their mentor teachers as a source of emotional support and an experienced colleague with whom they could collaborate and use as a role model to gain professional growth. Therefore, they expected their mentor teachers to provide helpful, corrective, and timely feedback. However, strong mentorship that is aligned with program expectations remains a challenge. Hence the opportunity for pre-

service teachers to impact the student/mentor relationship remains a potentially significant avenue for creating the optimal place for achieving strong teaching skills.

Teacher Candidate Beliefs

Pre-service teachers tend to emulate and value the beliefs and practices of their mentor teachers during their practicum or internship period (Bhuvaneswari, Greene, & Debacker, 2005; Pajares, 1992; Pourdavood, 2002; Rhoads, Radu, & Weber, 2011). Several researchers discovered that a large percentage of the pre-service teachers believed that the home environment and the parents' lack of value toward education were responsible for low academic achievement by students from diverse and ethnically different backgrounds (Baum & Swick, 2008; Cho & DeCastro-Ambrosetti, 2005). However, educators are finding that teacher beliefs are the most significant in perpetuating status quo teaching and whether to question existing practices and move to best practices and away from deficit learning theories (Johnson, 2002; Sensoy & DiAngelo, 2012; Valenzuela, 1999).

Jackson (2001) found that many pre-service teachers had low expectations and concerns about families with low socio-economic status (SES) and ethnic minority backgrounds prior to working with them. Cho and DeCastro-Ambrosetti (2005) stated that pre-service teachers tended to harbor negative beliefs about the parents of the children in public schools. Comments reported by pre-service teachers in this study included, "Blacks don't learn as well as White people. Why are we favoring a certain group, but not others? Since Hispanic parents don't value education, why bother tailoring instruction to meet their needs when they [Hispanic parents] don't care? You can't know all students, so just teach the subject" (p. 24).

Social Justice Perspectives in Teacher Preparation

As we work to educate our pre- and in-service teachers to work toward social justice, educators are confronted to be reflective of this challenge. Teacher Candidate Dispositions call on each of us to consider where we stand in the recursive spiral toward transformative praxis and social justice. Periodically, we check where we stand in our dispositions because we believe that we are life-long learners and each new experience and interaction can cause us to make modifications in the way we teach. Dispositions are the values, commitments, and professional ethics that influence behaviors towards students, families, colleagues, and communities that affect student learning, motivation, and development as well as the educator's own professional growth (NCATE).

Dispositions

One of the four categories that dispositions are placed in is that of caring. These involve caring about and for others. It is caring about others that moves an individual toward compassionate and concerned behaviors toward others. When a teacher candidate cares about education and access for all, the candidate is moved to stand in solidarity with and; thus, care for others. Care is viewed as a matter of relationships among diverse people (e.g., ability, age, ethnicity, gender, language, sexuality, SES) rather than as an inherent virtue of an individual. A second category includes the dispositions for social justice that imply advocating and working for just causes, and working against discrimination, exclusion or any form of oppression. The *disposition survey* is used periodically to assess students in our program through self-awareness and feedback from the faculty. Faculty want students to see growth from awareness to analysis and on to praxis. Of

course, praxis is elusive, and with each new course and experience, it is possible for one to move back and forth on this continuum in a recursive pattern. Once pre-service teachers begin to reach praxis, it is possible to change perspectives that may provide new insights and help to move us forward to a new awareness. Pre-service teachers, like us, come to the teacher preparation programs with much influence from the lived experiences they have had in the extant educational system that we critique and try to improve. This creates many of the tensions that give rise to research opportunities and reflective moments to consider pedagogical trajectories in university classes.

Many taken-for-granted assumptions will go unchallenged unless university faculty experience opportunities to meaningfully reflect what we believe and how it impacts us pedagogically. We know the high drop-out rate of students as well as that of teachers is too high. We must relearn some things that we hold on to as normal knowledge. This is only done through reading scholarly research and putting into practice those new ideas that have emerged under the purview of critical pedagogy. Kincheloe (2008) calls on us to consider how we might go about developing distinct practices to help particular students flourish in schools. We are asked to determine what we believe our purpose is. Namely, "...students do not need to be tamed, controlled, and/or rescued; they need to be respected, viewed as experts in their areas, and inspired with the impassioned spirit to use education to do good things in the world" (p. 8). Of course, we teach a class in multiculturalism, but we move to teach every class multiculturally. This means that "when critical pedagogy embraces multiculturalism, it focuses on the subtle workings of racism, sexism, class, bias, cultural oppression, and homophobia" (p. 9) and also to include ableism. Oppression involves pervasive, historical, and political relationships of unequal power among social groups. This is a tenet from Sansoy and DiAngelo (2012) that supports how we engage our students so that they understand the difference between oppression and discrimination. Thus, we orchestrate ways to interrupt oppressive practices and eliminate human suffering related to education.

Cho and DeCastro-Ambrosetti (2005) commented on the ever-increasing population and diversity of students in the public schools and the SES status of the majority of college students entering the teaching profession as middle-class White with a lack of cultural knowledge by the majority class. Cho and DeCastro-Ambrosetti also stated that university students often are resistant to discussion of social equity and racial diversity in the classroom even after participation in a multicultural education course. Many of the students wrote reflections in class that indicated they were unprepared to recognize the needs of racially and culturally diverse populations. The implications are the perpetuation of the deficit theory maintaining status quo (Moll, Amanti, Neff, & Gonzales, 1992).

Purpose

The purpose of this study was to explore the beliefs and perceptions of pre-service teachers during their practicum experiences as they relate to professional practice in order to improve current teacher preparation. The overriding research question was: *What are the perceptions of pre-service teachers entering their practicum experience?* Specifically, the following questions were addressed:

1. What are pre-service teachers' perceptions of the students with disabilities who they will be working with in their assigned class?
2. What are pre-service teachers' perceptions of their role as a special education practicum student in relation to working with these students?
3. What is pre-service teachers' perception of the parents of the students in their class (even if they haven't met them)?
4. What is pre-service teachers' perception of the teacher(s) in their class?

Method

This study took place in a minority-serving university in the Southwest. All activities were conducted during one academic semester and held during the weekly on-campus seminars. At this university, students enrolled in the practicum/field experience attended a weekly seminar and worked with students with disabilities in local school districts. Their time in the public school classroom was structured and aligned with seminar, school, and state licensure requirements. There was a Web/CT component of the course to enhance face-to-face activities. During the weekly seminar, topics related to special education, licensure criteria, and teaching methodologies were discussed.

Participants

The participants were a convenience sample of 13 pre-service teachers enrolled in dual licensure programs (elementary/special education and secondary/special education). Of these participants, 92% were female (n=12) and 8% were male (n=1). The participants reported their ethnicity as 8% African American (n=1), 23% Hispanic (n=3), and 69% White (n=9).

Procedure

A discussion took place with the lead researcher and two doctoral candidates in the Department of Special Education/Communication Disorders at the end of the semester and prior to conducting the research. A review of the literature determined that there was a gap in the research. There were numerous articles on perceptions; however, none focused on pre-service teachers and their perceptions as they related to students/families, cooperating teachers, or their roles in the classrooms. A qualitative approach was chosen and research questions designed for interviewing were compiled in order to explore the beliefs and perceptions of pre-service teachers. According to Bogdan and Biklen (1998), encouraging the participants to engage in conversation in the area of interest leads to greater participation. The research can then probe for in depth responses and guide the conversation.

This project was presented during the first seminar of the 16-week semester, and all pre-service teachers agreed to participate. Incentives for participation were not offered. Four, open-ended survey questions were reviewed during class and uploaded to the assignment section of Web/CT. Pre-service teachers were allotted two weeks to individually respond to the four questions and post to Web/CT. All surveys were completed on time and uploaded to the Assignment section of Web/CT by each student. The survey questions focused on: (a) perceptions of the students in placement sites, (b) perceptions of the role of the pre-service teachers (practicum students), (c) perception of the parents, and (d) perceptions of cooperating teachers.

Data Analysis

A pre-post survey methodology was used to determine if there was a change in the perception of pre-service teachers prior to and after their practicum experiences. Pre-surveys were completed in writing by each pre-service teacher at the beginning of the semester. A focus group was conducted at the end of the semester. Meraz-Rodriguez and Williams led the focus group. They began with an introduction and overview of the focus group activities. The guided session allowed for clarification of statements and in-depth responses that were expanded upon by each of the pre-service teachers. Questions were written on the white board in the room where the focus group took place, the session was audio taped, and transcribed verbatim.

A constant comparative analysis of the written and verbal responses was conducted to determine emerging themes subsequent to the data collection. A coded system was implemented following the Bogden and Biklen (1998) method of developing coding categories for both pre/post analyses. According to this system, coding should be used only as a post data collection heuristic or, rather, a mechanism to understand and organize the previously collected data. The focus group interview was recorded on a cassette and transcribed by Williams. Williams and Poel each reviewed the written pre-surveys and focus group transcription independently, identifying emerging themes, and discussed their findings to determine mutually agreed upon themes of Behavior Issues, English/Language Learners (ELL), Mentor Experiences, Negative Feelings, Misconceptions of Special Education, Personal Growth/Professional Growth, Positive Feelings, Real World Experiences, and Student Abilities. The thematic topics were operationalized individually and re-coded individually by Williams and Poel by question and theme. Thematic titles were determined by the content of the focus group and the participant responses. The pre-service teachers discussed issues such as misbehavior in the classroom, issues particular to ELL's, mentor obligation and behavior, beliefs and mis-information concerning special education student abilities in the classroom as well as positive and negative statements within these themes.

The focus group comments were organized in Excel and color-coded by theme. This double coding procedure ensured that the themes were accurate and agreed upon and led to a higher inter-rater reliability. Recoding also has been described as a cyclical effort by Creswell (2007), who posit that qualitative data are rarely organized accurately on the first thematic analysis and that several attempts may need to occur before satisfaction is attained depending upon the complexity and volume of the data. Poel and Williams chose to re-evaluate the themes with only two rounds due to the simplicity and brevity of the data. Concentration was placed on the actual information gleaned from the focus group and utilized percentages and frequencies within the identified patterns.

The pre-survey responses indicated that the pre-service teachers were focused on their placement sites and remained optimistic toward their cooperating teachers, students, and placements. Several negative beliefs were expressed by the pre-service teachers and included statements such as, "students are unmotivated," "students have low self-esteem," "girls try harder than boys," and "students need to learn strategies."

The post-survey group responses showed that pre-service teachers were more focused on the students and their readiness to take over the classroom. The somewhat negative comments were

not repeated during the focus group. Instead, pre-service teachers expected that their “students were going to be more severe [low cognitive abilities].” Several reported disappointment that their classroom assignments were inclusive settings and not self-contained or pull-out programs. Respondents stated, “It felt more like a regular [general] education practicum than a special education practicum.” “My class had a lot of behavior kids, and it was more like she was a teacher’s aide to the regular education teacher. She was running around, putting grades in the computer. We didn’t pull out a whole lot which was kind of sad.”

Another commented:

When I walked into the class, I was expecting for them to be focused more on LD and what’s happened at the middle school where I was placed. They’ve started including more of the inclusion classrooms with students who are BD as opposed to LD. The classroom size was small, but we were dealing mostly with a lot of behaviors instead of more of the disabilities.

Results and Discussion

The purpose of this study was to explore the beliefs and perceptions of pre-service teachers during their practicum experience as they related to professional practice in order to improve current teacher preparation practice. The overriding research question was: *What are the perceptions of pre-service entering into their practicum experience?*

Pre-Survey and Focus Groups Questions:

1. What are pre-service teachers’ perceptions of the students with disabilities who they will be working with in their assigned class?
2. What are pre-service teachers’ perceptions of their role as a special education practicum student in relation to working with these students?
3. What is pre-service teachers’ perception of the parents of the students in their class (even if they haven’t met them)?
4. What is pre-service teachers’ perception of the teacher(s) in their class?

Perceptions of Pre-service Teachers

Question 1: What are your perceptions of the students with disabilities who you will be working with you in your assigned class?

Written responses indicated that 80% of the pre-service teachers believed that their students would be bright and capable of completing in-class assignments, while 93% responded by naming the disabilities (learning disabilities, behavior problems, etc.) present in the classroom. Comments included:

Table 1

Pre-Survey Responses: Pre-Service Teachers Perceptions of Students with Disabilities

Student

Responses

Student “They seem to do very well in the reading aspect of the class.”

Student “All of the students have a wonderful disposition and they are willing to be their own person.”

Student “I feel the students that I will be working with are great students. These students have the typical behavior of a teen. I know I am stereotyping, but I also believe they act the way they do because of the neighborhood they live in. In this class, I am not sure which students have a disability, although, I do know half the class has one.”

Student “I am not sure of the severity of any of the student’s disabilities so I feel that judging them at this point by their disabilities would be detrimental to my feelings toward them in general.”

The focus group conducted at the end of the semester revealed that 61% of the pre-service teachers had positive perceptions of their students and exhibited a sophisticated understanding of the problems faced by students with special needs. Comments included:

Table 2

Post-Survey Responses: Pre-Service Teachers Perceptions of Students with Disabilities

Student “It was the first special education practicum I had had and a practicum that I had a really good experience in. I had a low-incidence class and all of my kids had such a great disposition. They were happy, all the time. They could be having a really bad day but they were happy and really willing to do whatever you asked. It was an M-S class and I was kind of uneasy about that, but being in that class, I started feeling that maybe middle school is the way I should go.”

Student “I thought my students were going to be more severe [low cognitive abilities]; I found that my students were very capable, they were all very bright; I was surprised by that.”

Implications for program improvement indicate that pre-service teachers are well read on disability categories and general characteristics exhibited by these students; however, the reality of what the behaviors look like are only identified through engaging experiences in the classroom. The majority of these pre-service teachers spend time in the general education setting during their elementary methods classes (science, social studies, and math); however, working with students with disabilities is often not an option at that time. Hence, the special education practicum at the end of their program appears to be late for students seeking licensure in special education.

Question 2: What are your perceptions of your role as a special education practicum student in relation to working with these students?

According to their responses, 67% of the pre-service teachers reported, during the pre-survey, that they were looking forward to teaching their own lesson plans, while 95% of candidates stated that they wanted to help their students. During the focus group, pre-service teachers (61%) stated that their experience was not what they expected. Comments included:

Table 3

Pre-Survey Student Responses: Pre-service Teachers Perceptions of their **Role**

Student "I didn't have any expectations. I didn't know what to expect. When I first got there I was just supposed to help with tutoring type stuff, but by the middle of the semester if any kids got out of hand, I was the one dealing with it. It was just like I was another teacher in the class. If I wanted to bring anything in that I thought the students would benefit from, she'd let me do it."

Student "I didn't have any perceptions except that I was going to be working with elementary instead of middle school student which I normally work with. What I was very disappointed with was not that my cooperating teacher was an inclusion teacher but that we jumped around so much."

Most of the pre-service teachers viewed their role in the classroom of helping students as positive. They further stated that at first they were unsure of themselves and wanted to be accepted by other teachers. These concerns were not mentioned during the focus group. Many pre-service teachers (58%) did seem to be concerned that they would learn from their mentor at the beginning of the semester but did not state that this was a primary reason for participating in the practicum during the focus session.

It is interesting to note that initially pre-service teachers were concerned about themselves, their relationships with their cooperating teachers, and judgments by other teachers in the building. By the end of the semester, their concerns shifted from self to student needs. The role of the special educator is constantly changing from lead teacher in a pull-out setting, team teacher in an inclusive setting, case manager who often does not see students, and consultant to other professionals. Therefore, it is crucial for pre-service teachers to spend time in the classroom and a variety of settings (e.g., elementary, middle, high school).

Question 3: What is your perception of the parents of the students in your class (even if you haven't met them)?

The pre-survey written responses indicated that 79% of the pre-service teachers believed that the parents were largely uninvolved or otherwise inaccessible to help their children at home. Conversely, by the focus group, 88% stated that they believed that parents did care for and are patient with their children. The focus group results showed that 100% of pre-service teachers increased their positive views of parents by the last week of their practicum experience even though more than 61% continued to hold some negative views of parents. Comments included:

Table 4

Pre-Survey Responses: Pre-service Teacher Perceptions of Parents of Students with Disabilities

Student "There was another student who they were going to write letters to somebody, and she wanted to write to her dad. My co-op teacher asked if Mom would be okay with that. I could tell right away that she wasn't going to be writing to her dad."

Student "I learned more about their extracurricular families. Their Juvenile Parole Officers

(POs) and their case managers met with a lot of them and discovered that my cooperating teacher kept in contact with these extracurricular families through email, and it was a daily thing. The students respected that authority more than they did their family authority.

Student One pre-service teacher described an altercation in the classroom with two of the boys during which the mentor teacher got knocked down. The pre-service teacher stated that the mentor teacher told the boys that she had not written their PO yet, but that they knew what was going into the letters. She reported that some of the parents came in, but the kids didn't talk to their parents; it was like they weren't even there. She described the students as not acknowledging that their parents were present during the meeting."

The reality of being a special educator is that they only can effect a change in the lives of students during the time they work with them. However, educators need to continue to encourage parental participation and remain creative in scheduling educational activities that bring parents to school. Adolescence is a time that children are exploring their world and using their experiences to put meaning into their life (Wiseman, 2010). "Significant adults can have an important impact on children's development at any age, but it is particularly relevant during the adolescent years due to the significant life choices they experience as they become more autonomous" (p. 1).

Question 4: What is your perception of the teacher(s) in your class?

A high percentage of the pre-service teachers (93%) expected their mentor teacher to be caring and patient toward students and expected the mentor teacher to be knowledgeable in teaching students with disabilities. Student comments included:

Table 5

Pre-Survey Responses: Pre-service Teacher Perceptions of Teachers

Student "I am hoping that my teacher will be intelligent."

Student "The lead teacher in the classroom had several years of experience and seems to highly skilled at running a special education classroom. She is extremely patient. Over the course of the day she didn't once lose seem to get angry or hostile in any way towards the students, even when some extremely frustrating behaviors were being exhibited." She treats them respectfully and seems to be very much in tune with their individual needs, both psychosocial and academic."

Student "The perception of my teacher is that she is a very caring teacher. "You can tell from her interactions with the students that she truly enjoys her job. She seems to be the type of person that is always ready and willing to help any of her students as well as any of her colleagues."

Student "They usually refrain from sending the students to detention. The teachers treat the students like people who want to learn. The teachers try to get the students to learn by

relating their school work with their own life experiences and modifying their classroom and assignments to meet the student's needs. They set up their classroom, room and environment for the students to succeed (not fail). They want their students to feel they are welcome/safe/comfortable in their classroom."

Most pre-service teachers (80%) reported a desire for the mentor teacher to be open to their needs at school and at the university on the pretest; however, this concern was not mentioned at the focus group. Although most candidates expressed positive views of their experience, there were some candidates who left their practicum experience with a negative view of their mentor teacher.

The focus group responses indicated that 53% of pre-service teachers felt that their mentor teachers displayed knowledge related experience. Interestingly, only 38% of the pre-service teachers specifically stated that they had observed their mentor behaving in caring ways toward students and felt that their mentor teacher seemed to be "too busy" to adequately teach students every day. One pre-service teacher stated that her mentor teacher was absent much of the time, relying on her to teach the class almost all of the time. She noted that the students in the classroom did not seem to respect her and that her absence from the classroom may have been part of the reason. She stated, "I use to think that it was a good idea to have IEPs during the day so you could get everyone in there, but I don't think so anymore." This pre-service teacher concluded that "when she would come back after a 2 or 3 day absence, the kids would treat her as a [substitute]. She didn't know what was going on." Another pre-service teacher commented, "that [mentor] didn't really do anything with them. They did a bunch of worksheets. When they were working at Peter Pipers [Pizza], she would always look after me and show me her lesson plans. She got mad at one of the students because he couldn't do what she said for him to do; he couldn't do it, but she wasn't really watching."

Two pre-service teachers explicitly stated their mentor "helped them to learn." Additionally, many of the comments made throughout the focus group suggested that the majority of mentor teachers spent quality time and energy teaching their novices the fundamentals of classroom practice. One pre-service teacher reported that she had met with her mentor before she actually began her practicum. She noted "from day one she allowed me to work with the kids. There was no observation, she said go for it; do what you want to do." She stated that if she was doing something her mentor "either didn't like or wanted another way, she'd pull me aside and say great approach, but let's do it this way."

Another pre-service teacher revealed that her mentor was much like everyone else's and that her mentor also had several of IEPs near the middle of the semester. She also was left in the classroom to teach without the mentor, but perceived it to be a positive. It was her first special education practicum and it had really differed from the general education practicum in that she had a really good experience and that she had been allowed to teach on her own. "I had a low-incidence class and all of my kids had such a great disposition. They were happy, all the time. They could be having a really bad day, but they were happy and really willing to do whatever you asked."

One pre-service teacher reported that initially she was uneasy about her placement, a middle school classroom, but during the experience began wondering "if maybe middle school is the way I should go." Her mentor teacher began sending her to the classroom "to take care of things in there." The last couple of weeks, the mentor turned most of the teaching duties over to her. She stated, "It's been a lot of fun. It was an inclusion class with both special education and regular education students."

When pre-service teachers enter into their practicum experience, they often are faced with inaccurate ideas of what they will encounter in the special education classroom setting. They have spent countless hours in the university classroom learning theory and textbook pedagogy and often the reality is as varied as the inclusion setting. Many students believe that all special education settings contain students with severe disorders and maladaptive behaviors. Because many of the practicum settings are inclusion and resource rooms for children with special education needs in the mild to moderate range, there is a need to prepare students for a more realistic range of student abilities and their needs. Children with mild disabilities warrant instruction of the proper type and intensity just as do children with low incidence disabilities.

By forming strong partnerships with placement school districts and selecting strong mentors, adhering to best practices as outlined by the National Council for Accreditation of Teacher Education (NCATE) and the Council of Exceptional Children (CEC), creating dual-licensure programs (e.g., special education & elementary education; special education & secondary education; special education & bilingual education) in higher education, and listening to the voices of our pre-service teachers all suggest the beginning to creating a strong quality teacher preparation program.

Limitations

The research was limited to a small sample of 13 pre-service teachers. They were a convenience sample of undergraduate and graduate students enrolled in a teacher preparation program at a university in the Southwest. The research took place during one academic semester. Providing mentors with the time to devote to the pre-service teachers also was deemed a limitation as more than one candidate noted that her supervising teacher was out of the classroom on a regular basis and for extended periods of time.

Conclusions

The purpose of the study was to examine the beliefs and perceptions of pre-service teachers as they related to their practicum experience. Based on the analysis of the open-ended survey and focus group responses, pre-service teachers maintained a positive attitude toward their students, projected an understanding of their students and their disabilities, and recognized the challenges that students with disabilities face. These are indeed complex issues, and the study revealed several concerns that are worth addressing. For example, many of the pre-service teachers described their students primarily by disability and ethnicity at the beginning of the semester. This response had been replaced by more descriptive terms such as *bright*, *capable*, *funny* and *respectful* by the end of the semester. Their focus switched from attention to themselves and limitations of the students to the abilities of the students and their individual learning need.

By better understanding the perceptions and beliefs of pre-service teachers completing their practicum and field experiences, the researchers hoped to provide pre-service teachers with a more complete experience to help prepare them for student teaching and, ultimately, to become a lead teacher in the classroom. Meeting with the cooperating teachers, university supervisors, and pre-service teachers together at the beginning of the semester may help to clarify responsibilities and make for a stronger triad team. A longitudinal study may provide information that would be beneficial to the overall improvement of teacher education programs.

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Effectiveness of Transitional and Follow-Up Programmes to Community Integration of Young Adults with Intellectual Disabilities (YAWID) in Kiambu County, Kenya

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Abstract

The purpose of this study was to investigate how vocational education and transitional services offered in vocational institutions helped young adults with intellectual disabilities (YAWID) attain full community integration. The study objectives included investigate the effectiveness of transitional services and follow-up programs towards aiding their community integration. The study employed both quantitative and qualitative approach. Quantitative analysis was applied for the purpose of clarification, strengthening, explaining and supporting qualitative information.

The research design for this paper was a descriptive case study. The target population comprised all young adults with intellectual disabilities in Kiambu County. The sample of the study included 10 young adults with intellectual disabilities. Other respondents were a head teacher/employer, 2 vocational teachers and 9 parents. Data collection was completed via use of interview guides, note taking, audio recording and an observation checklist. The actual data collection took 30 days. Data from interviews and observation text were coded and codes created according to the themes of the study. Qualitative data analysis was by use of Atlas ti software computer programme. Quantitative data analyses were completed manually through tallying the frequency of segmented responses. Further, the findings revealed that in as much as young adults with intellectual disabilities were offered vocational skills in the special school, what they were engaged in was not relevant to the skills they trained in. This led to some of them disliking the kind of jobs they had as avenues of community integration. It was evident that a well-specified vocational transitional services for persons with intellectual disabilities was lacking.

Conceptual Framework and Related Literature on Transitional Services for Young Adults with Intellectual Disabilities

Education process and transition enhancing processes are both needed to ensure better outcomes in the lives of persons with intellectual disabilities. As the model suggest, the quality of our lives is multidimensional. Implementing the concept would require a deep commitment and a

sustained effort on the part of all parties involved in the transition and integration processes as shown in Figure 1.

This conceptual framework is based on Halpern's model of transitional services. The researcher however adapted it to accommodate education progress of persons with intellectual disabilities. The conceptual framework shows that for a student to be integrated fully in his or her community, the kind of education received in schools must address the community adjustment needs. The study used 3 Halpern's avenues of community integration: generic services which in the framework are referred to as education progress, time-limited support indicated as post-school vocational programmes and ongoing support being referred to as Transitional Services.

There has to be a procedure for a person with intellectual disabilities in vocational institutions to attain a level of independent living. A student needs to receive vocational skills and transitional services which are vital for community adjustment. When formal academics of persons with intellectual disabilities are over, prevocational skills precede vocational skills. An IEP is developed for each learner. In preparation of community adjustment, transitional services are offered such as career guidance and counseling. On the other hand, a student may fail to gain the necessary skills in school. Such a person would need further training in a post-school programme; vocational training, social training and individualized vocational plan are emphasized.

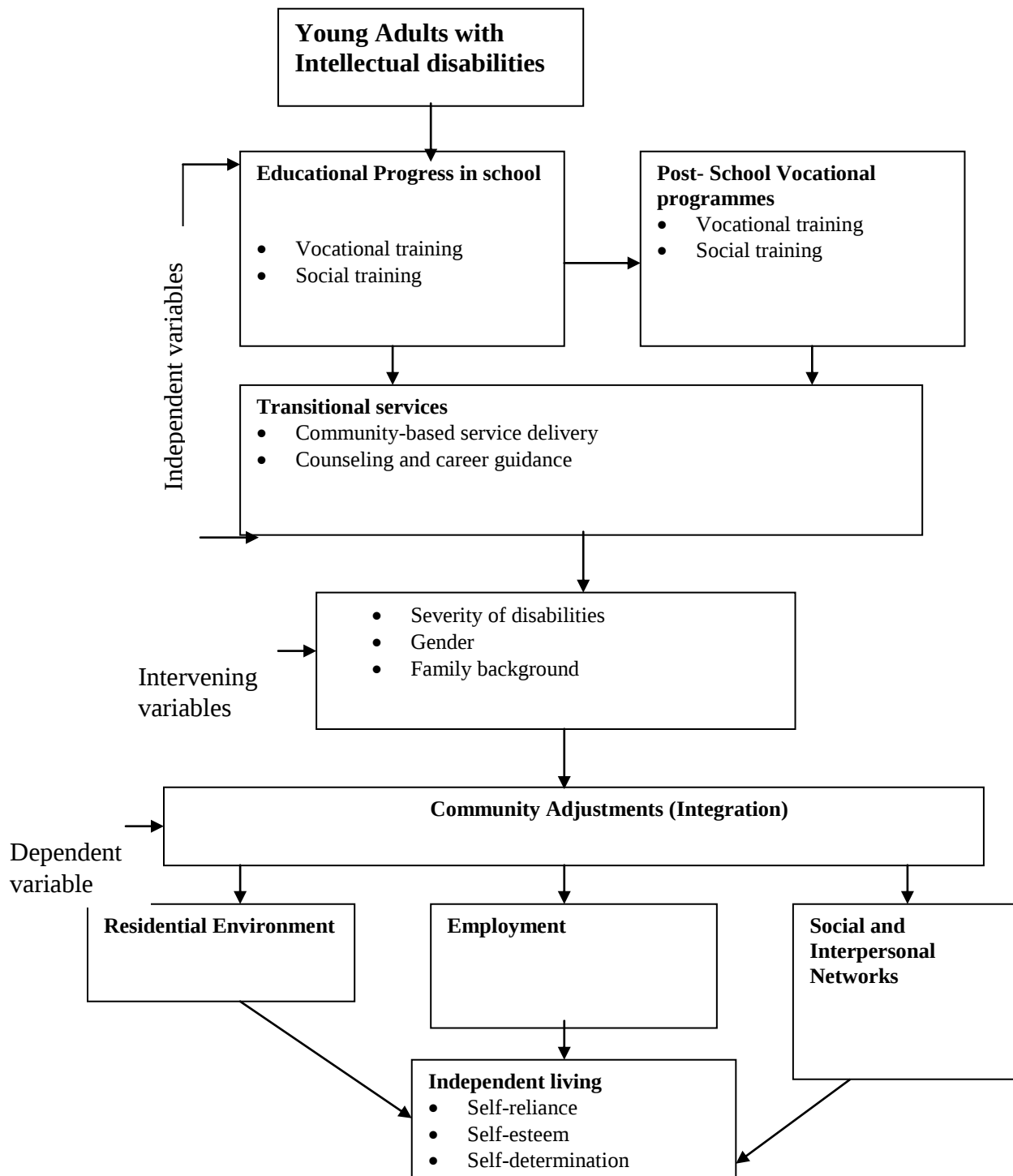
Further, transitional services would be required and the person may adjust to community life in terms of supported employment, full employment, or self-employment and other social activities. Likewise, a student may have acquired just daily living skills and live with the family after school. He or she may live independently through owning properties. Interpersonal interaction adds to the value of self-esteem. This is fulfillment of learners' needs in accessing interest, transport facilities, civil rights, e.g. rights to inheritance and legal justice among others. All this lead to community integration of YAWMR hence, the relevance of the model to this study.

However, intervening variables have to be dealt with first to allow smooth transition. Such intervening variables include disability severity, gender, and family background among others. Where the disability is severe, the inability to perform is high. Male and female course perception may prevent a person from joining the appropriate course trade. For instance, a female may be perceived abnormal in masonry by the society or a male may look odd in saloons attending to women hair styles. Poor families are surrounded by disability stigma and are isolated in the society. They therefore withdraw from trying anything for their children including failing to educate them even when there is free primary education (Kamere, 2004).

Curriculum for Persons with Intellectual Disabilities

According to Heward (2006), several approaches should be used to enable a person with intellectual disabilities acquire the necessary education. These approaches include: Curriculum goals, functional curriculum, and community living skills. Identifying functional curriculum goals for students with intellectual disabilities has become a major priority for special educators (Heward, 2006). Community living skills are also important in preparing persons with

Figure 1: Source is from Halperns model of Transition.



intellectual disabilities to acquire such skills as; development and maintenance, home-making and community life, vocational, leisure, travel, job placement and self- determination. Gargiulo (2006) further emphasizes that education provided to learners with intellectual disabilities must learn functional skills in preparation to live and work in their immediate communities. Sifuna and Sawamura (2008) posit that strengthened development of communities should be based on the qualitative growth of individuals for the community where persons with intellectual disabilities are included rather than quantitative expansion of education. Further, Friend (2008) emphasizes that students with intellectual disabilities should access the same sets of services in the same settings as other students without disabilities. Friend (2008) emphasizes full integration to community life.

TIQET(Total Integration Quality Education Tiquet) in the Republic of Kenya, 1999 recommends that the curriculum for children who have been diagnosed with intellectual disabilities needs to emphasize some academic subjects, self-help skills, community living, and vocational skills. The commission further states that persons with intellectual disabilities should be fully integrated in their communities. Republic of Kenya (2003) on Special Needs Education (SNE) Task Force reports that very few special schools offered vocational training programmes.

Nyakondo (2000) discussed problems faced by teachers teaching persons with intellectual disabilities and doubts the curriculum for social skills as far as promoting integration of persons with intellectual disabilities into the community in which they find themselves is concerned. He further emphasizes that persons with intellectual disabilities should be given a chance to overcome their handicaps in order to facilitate their integration into the rest of society. According to Nyakondo (2000), vocational rehabilitation is vital for all persons with disabilities including those with intellectual disabilities. However, he cites that many vocational institutions cater for other disabilities overlooking those with intellectual disabilities, thus limiting their community integration.

Transitional Services

Transition services are planned educational and support services for individuals with special needs who are moving from one level of education to another such as from vocational institutions to community integration. Transitional services include transition assessment process, job training and follow-up and job retention. Kirk, Gallagher and Anastasiow (2003) argue that, due to vocational problems experienced by learners with intellectual disabilities, educational interventions should target the demands of adulthood, adaptation to adult roles and especially work. This includes; community-based instructions that involve teaching students transition-related skills in the actual community settings in which they are used (Turnbull, Turnbull & Wehmeyer, 2007).

Attempting to anticipate where the field of intellectual disabilities is going, Gargiulo (2009) cites that the global vision is to include more community-based activities that are available across several domains, including employment, education and residential options. This should only be by improving both the quality and quantity of programmes and services for persons who are mentally retarded. Greater attention should be paid across all age groups to fostering self-

advocacy and self-determination, as persons with intellectual disabilities seek greater control over their lives and fuller participation in all aspects of the society (Gargiulo, 2009).

Kraemer and Blacher, (2001) highlight that little is known regarding the extent to which schools are implementing transition programmes for students with severe intellectual disabilities and other related issues. Such issues include; parental expectation of transition outcomes, post-school vocational outcomes, and parental involvement in the transition process. Kraemer and Blacher also found that majority (54%) students who exited the school systems were working in segregated environments. In yet another study, 188 young adults with moderate or severe intellectual disabilities were examined. A Quality of Life Questionnaire (QOL-Q) was used as the primary outcome measure. Young adults who had exited schools had significantly higher overall quality of life scores than did those who were still attending school. Those that had jobs in the community also had significant higher levels of quality life (Kreamer, McIntrege & Blacher, 2002).

A study by Kamere (2004) suggests that development of special education for children with physical handicap in Kenyan vocational institutions should aim at integrating the persons with intellectual disabilities society, taking into account the individual student needs, reference and interest. Such programmes should include functional curriculum, vocational education, acquisition of daily living skills transitional services and community adjustment skills. However, Kamere goes on to argue that society views the special needs individuals as less able and incapable. They are also viewed as lesser or non productive citizens, who cannot contribute much to the development of a country. They are, therefore, stereotyped as those incapable of performing. As a result, the education given to them is one which is inexpensive, employing little skilled manpower and one which is attained in the shortest time possible. In this case, it is geared towards manual training and acquisition of basic skills for survival. Training towards industry and business fields is rarely availed to these persons (Kamere, 2004).

Kamere (2004) suggests that there is need to carry out a study showing different vocational training programmes available for the different groups of individuals with special needs, their viability, and their appropriateness in meeting the needs of a modern economy. She also suggests that there is need to carry out specific studies on other special needs groups including those who are mentally retarded, visually impaired, hearing impaired or multiply handicapped individuals prompting the researcher to establish the vocational education and community integration of young adults with intellectual disabilities in Kiambu County.

Transition Assessment Process

Transition planning occurs for students aged 16 years and above according to IDEA, 2004 where content must address a minimum instruction, community experiences, and developmental of adult living objectives and if appropriate, daily living skills and functional vocational evaluation (Taylor, 2000). Transition from school to adult life is essential. Transition assessment, planning, education and transition assessment resources or use in secondary settings are necessary to ensure effective community integration (McCloughlin & Lewis, 2005). How these have been practiced in Kenya and particularly in Kiambu County was the researcher's concern.

Kweku (2000) argues that trainees are not selected by the use of formal vocational assessment tools, neither are they offered the opportunity to practice in real workshops in integrated settings. Further, a study by Odei (2004) on evaluation of social skills development among children with intellectual disabilities also cites a problem in Ghana where children in school are not reassessed annually in social skills competence by a multi-disciplinary team. In a comparative study of intervention for children with intellectual disabilities children in the integrated setting show a better functioning level on social skills and communication skills which are basic for every activity of life. The Kenyan scene is yet to be established. (Dereje,2001)

A study by Kihoro (2010) emphasizes that the most crucial aspect of special needs education is the assessment process since it is the point at which some children are judged differently from others. This necessitates their removal from the normal education programme offered to the majority of children in schools. However, it should also be practiced in transitional assessment for community integration. This research explored how persons with intellectual disabilities are assessed for transitional placement in Kiambu vocational institutions. All the above studies however, did not include those who completed schooling, hence prompted a gap that this research sought to fill.

Job Training, Follow-Up and Job Retention

Heward (2006) cites work skills, including job search skills, and the need to improve initial training, vocational guidance and access to employment for those threatened with social exclusion as the most important aspects in the life of persons with disabilities including those with intellectual disabilities. Friend (2008) further emphasizes that supported employment is the practice of assisting adults with disabilities to obtain jobs in the competitive market and providing them with the necessary physical, instructional and social support to ensure success for the employee and satisfaction for the employer. This is not easy for a person with intellectual disabilities. Hallahan, Kauffman and Pullen (2009) argue that adults with intellectual disabilities have high rates of unemployment but with appropriate training individuals with intellectual disabilities can hold down jobs with success, measured by such things as attendance, employer satisfaction, and length of employment.

In Kenya, the available job facilities to young adults with intellectual disabilities are limited. Facilities include; carpentry, masonry, poultry, ornament-making, tailoring and metal work, among others. However, very few individuals with intellectual disabilities are offered such job opportunities. They live a life of dependency on families and significant others due to negative societal perception that disability is inability which should not be the case. The study findings have disapproved this belief since there was evidence of a few YAWID (Young Adults with Intellectual Disabilities) already engaged in the community participation.

Study Methodology

Research Design

A descriptive case study design was employed for both the qualitative and quantitative approaches. A qualitative approach was chosen because the researcher wanted to understand the phenomenon by studying individuals and site in their natural setting (Creswell, 2003). A Qualitative approach provided a comprehensive analysis or an intensive investigation of

vocational training, social training and transitional services that aided young adults with intellectual disabilities for community integration. It also enabled the researcher to personally interact with the respondents in the study. This gave first-hand information from the respondents, thus advocating a more serious focus on integrating persons with intellectual disabilities in the community. Quantitative data strengthened the qualitative information for more clarity.

Location of the Study

The study was carried out in Kiambu County, Kenya. Kiambu is approximately 20 kilometers from Nairobi city. It has an area of 736.3 square kilometers with a population of 1,623, 282 (802,609 male and 820,673 female). It borders Murang'a at the North, Nairobi at the South, Machakos at the East and Kajiado at the West. It is an agricultural area where cash crops like coffee, pyrethrum and tea are grown. It has business premises in its major and minor towns. Kiambu which is both rural and urban was purposively selected. The number of individuals in Kenya diagnosed with intellectual disabilities is.....

Sampling Techniques and Sample Size

This section presents sampling techniques and the sample size the researcher used to carry out the study. In this study, purposive and snowballing sampling techniques were used. This techniques is.....(define) cite source

Purposive sampling was used to select Maria Magdalene institution because it was the largest vocational institution for persons with intellectual disabilities in Kiambu County. Therefore, it was hoped that it would give the sample of graduate respondents needed for the study. However, the head teacher and vocational teachers were also purposively sampled.

After identifying a small number of individuals who had the required characteristics, the researcher used parents as informants to identify others who qualified for inclusion in the study. Young adults with intellectual disabilities helped to locate other persons of their kind with or without employment. Parents gave information of other parents with young adults with intellectual disabilities.

Creswell (2005) cites that for the qualitative inquiry, the intent is not to generalize to a population but to develop an in-depth exploration of a central phenomenon hence the researcher's decision to use a small sample of the target population. The sample for the study ought to have comprised 1 head teacher, 2 vocational teachers, 10 employers, 10 parents and 10 young adults with intellectual disabilities; 3 female and 7 male. The sample size of both parents and employers was to be dictated by the number of YAWID who had graduated from Maria Magdalene. From 2005-2010, there were just 16 graduates. All the respondents were from Kiambu County. In total, the respondents were projected to be 33 in number. However, the employers reduced from 10 to 1 since most of the graduates were just absorbed in Maria Magdalene Institution. Parents sample size also reduced to 9 since one of the parents never agreed to be interviewed and claimed all the information could be sourced from the son whom she said was a grown-up. The sample size therefore reduced to 23 respondents.

Research Instrument

To achieve the objectives of the study, primary data were collected using the following instruments; interview guides for the head teacher, vocational teachers, parents, YAWID and employers and observation schedules were used on YAWID working. See appendix A for samples of the research data instruments.

Interview Guides

Direct personal investigation involves collecting information personally from the respondents concerned. This method is particularly suitable for intensive investigations (Kothari, 2003). Thus, more information in greater depth was obtained from the study. Interview guides for the head teachers, vocational teachers, employers, YAWID, and for parents all comprised 6 items that helped further probing. These comprised general information, identification and classification of YAWID, vocational education, transitional services, community integration avenues and barriers to community integration of YAWID.

Observation Schedule

Information was obtained by way of investigator's own direct observation without consulting the respondents. The information obtained under this method related to what was currently happening and it was not complicated by either the past behavior or future intentions or attitudes. Many persons with intellectual disabilities lack expressive language skills hence the relevance of observation instrument. Further, the instrument gathered first-hand information. The researcher employed a non-participant observation to gather information on persons with intellectual disabilities behavior as they work. The researcher collected information by use of both descriptive and reflective field notes. Descriptive field notes recorded a description of the events, activities and people (e.g. what was happening) while reflective field notes recorded personal thoughts that the researcher had that related to her insights, or themes that emerged during the observation. Observation schedule comprised seven items for YAWID working.

Data Analysis

Data were coded and created according to the themes of the study. Translating from English to Kiswahili was employed. The researcher developed themes from respondents in groups about YAWID's identification and classification, vocational education, transitional services, community integration avenues and barriers to community integration. Text from interviews and observation analysis was by use of a computer programme Atlas ti. Atlas ti helped the researcher to organize text and compare segments of information. Again, it was easier to search, retrieve and browse all data segments and notes relevant to an idea. However, qualitative data analyses were manually through tallying the frequency of segmented responses. The researcher summarized those themes and wrote down how they reflected to experiences reported by other

Results and Discussion

General Information of Respondents

The sampled population consisted of YAWIDs bio-data, respondents' experience with YAWID and parental level of education. Young adults with intellectual disabilities' age ranges from 24

years to 35. The sample comprised of 10 YAWID out of which 3(30%) were females and 7(70%) were males. The Bio-data distribution is summarized in Table 1.

Table 1
Bio-data of the Sampled YAWID

Age	Gender		Frequency	Percentage
	Male	Female		
20-25	1	1	2	20
26-30	4	2	6	60
31-35	2	0	2	20
Total	7	3	10	100

Findings suggest that there is no gender balance in Maria Magdalene Vocational Institution. This is an issue that should be looked at to empower females with intellectual disabilities as far as vocational training is concerned to enable them to be self-reliant. It is evident from the findings that young adults with intellectual disabilities are placed in the vocational institution. However, many are males since you get courses like carpentry and masonry being male-domain skills. These skills are mostly taken by male persons with intellectual disabilities and could be the reason why female graduates were few.

The researcher wished to seek respondents' experience with YAWID. This information was gathered from the head teacher of Maria Magdalene who also turned out to be the only employer of YAWID and vocational teachers. From the findings, it was noted that the head teacher had the longest experience of 20 years with YAWID. The second respondent was one of the vocational teachers for 13 years and the other vocational teacher had only 3 years experience. The results showed that the head teacher and one of the vocational teachers had enough experience and knowledge of 20 and 13 years respectfully in teaching persons with intellectual disabilities. Therefore, their graduates must have gained skills required to adjust to community living. The many years of experience make teachers experts in the area, thus able to modify curriculum to be community integration-oriented.

The researcher also sought to determine the employers' experience with YAWID. The researcher targeted 10 employers but it was found that YAWID were not employed in many other places apart from their own institutions from which they graduated they graduated. In this case, the head teacher of Maria Magdalene turned out to be the only employer of her graduates. The results showed a need to advocate for these youths employment in the entire society. This is significant in that employers either don't know about these individuals or these individuals do not seek employment. Hallahan et al., (2009) support this when they say adults with intellectual disabilities have high rates of unemployment.

The researcher sought to determine if parents of YAWID were educated. The results are presented in Table 2.

Table 2
Parental Level of Education and Frequency

Education level	Frequency	Percentage
Std 7	2	22.2 %
Form 4	6	66.7 %
Higher Diploma	1	11.1 %
Total	9	100 %

Vocational Education Offered in Institutions for Persons with Intellectual Disabilities

The main objective of vocational institutions for persons with intellectual disabilities is to make these individuals gain skills that could lead to community integration in terms of employment and societal participation. This would enable them to be self-reliant and contribute to the development of the societal engagements. This would also enable them to be productive in the society at large. Gargiulo (2006) emphasizes that education provided to learners with intellectual disabilities must be functional in preparing them with skills to live and work in their immediate communities. Sifuna and Sawamura (2008) further emphasizes that development of communities should be based on the qualitative growth of individuals for the community where persons with intellectual disabilities are included rather than quantitative expansion of education. Interviews held with the respondents concerning vocational education offered to the trainees of Maria Magdalene special school revealed that those trainees were trained on a number of skills. These included among others, vocational training, activities of daily living and social skills.

Vocational Skills Offered in the Vocational Institutions

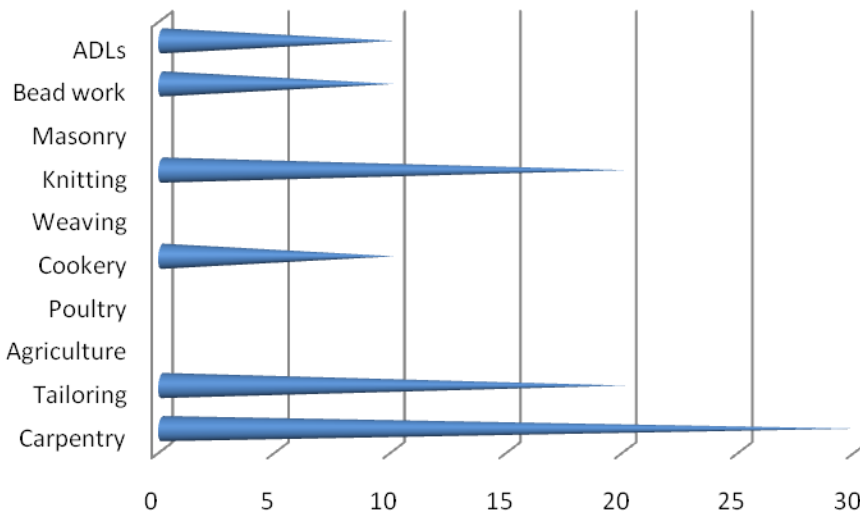
In this section, the researcher sought to discover the vocational skills offered to persons with intellectual disabilities and how relevant the skills were in their community integration. Further, the researcher was interested in knowing the likes and dislikes of the skills the YAWID trained in.

Interviews with respondents revealed that trainees were exposed to skills such as carpentry, tailoring, masonry, welding, agriculture, jewelry and ornament making. This was given by educators (trainers) as what they offer in the vocational classes. One of the trainers stated:

“We have several skills that are vocational skills and they include; carpentry, tailoring, masonry, welding, agriculture, jewelry and ornaments” (Personal Communication Female head teacher, 2011).

Graduates interviewees were also asked state what they took as vocational courses. The responses were as in Figure 2.

Figure 2
Courses offered in Maria Magdalene Vocational Institution



The table above indicates that courses offered to YAWID included; Activities of daily living, beadwork, masonry, knitting, weaving, cookery, poultry, agriculture, tailoring and carpentry. This information was reported by the head teacher and vocational teachers. Parents were also asked to give the same responses since all were referring to all the courses taught. It was not evident whether there was specification of the course to YAWID as the administrator had said. However, Figure 2 shows that 3(30%) of the graduates reported to have done carpentry, 2(20%) tailoring, 2(20%) knitting, 1(10%) cookery, 1(10%) beadwork and 1(10%) had only acquired activities of daily living. Skills like masonry, weaving, poultry and agriculture were not reflected in the reports given by the graduates meaning they were not trained or none of the graduates was interested in them contrary to what was reported by the administration that they did all those courses. This motivated the researcher to ascertain whether YAWID were comfortable with the courses they took. YAWID were asked whether they liked or disliked the courses. The results are provided in Figure 3.

Figure 3
YAWID Graduates likes and dislikes of the courses they took

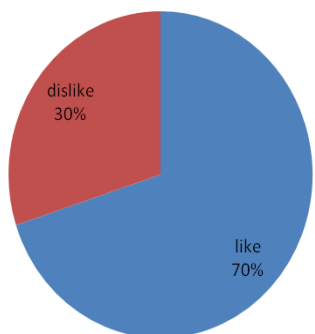


Figure 3 shows that for both genders, most of the respondents liked whatever course they were trained in. Seven (70%) out of the 10 graduates reported that they liked the courses they took

while 3(30%) of them reported to have liked something else. However, the researcher observed and asked what work they were doing at the moment and it appeared again what most of them did was ordinary manual work like being a grounds man, teacher aide, watchman and others that did not reflect the course that they took in vocational institution. They just got absorbed in school after graduation and very few did what they trained in. Basically, what they did was daily living activities like cleaning the compound and the like. Similarly, the researcher asked on the course relevance. Most respondents said the courses were relevant as in Table 3.

Table 3
Course Relevance to YAWID's Community Integration

Course relevance	Frequency	Percent
Yes	16	69.6
No	7	30.4
Total	23	100

Despite the observation made by the researcher, majority claimed that whatever training they received in school was helpful, especially when one was able to manage himself instead of the family members or caregivers. From Table 3, 16 (69.6%) of the 23 respondents said the courses were relevant while 7(30.4%) said they were not. Some respondents felt that the skills would motivate self-employment initiatives such as soap making. One of the respondents confirmed this when she said:

"Mother sells it and buys things for us in the family, for example you can see am smart mum bought this dress for me and am putting it on today" (Personal communication, Female YAWID no. 5, 2011).

On the other hand, their parents supported that whatever they did in school was useful to them as far as their daily living was concerned. One parent had the following to say:
Yet another parent asked how she would comment on the kind of education her daughter received in relation to her community living, her response was:

"She is able to earn a living through soap making and people come to buy her soap and even Maria Magdalene school." (Personal communication, Female parent no. 4, 2011).

This was confirmed by one of the vocational teachers when she was asked whether they had any graduate who is self-employed. She had the following to say:

"Yes, one of our girls is making soap so we buy chemicals for her when the finances are there to boost her business." (Personal Communication, Female vocational teacher no. 1, 2011).

Graduation and Accreditation of YAWID Graduates from 2005-2010

Educators were asked to give the number of graduates who had graduated from 2005-2010. Their responses were as per Table 4.

Table 4
Number of Graduates from 2005-2010

Year	Female	Male	Frequency	Parentage
2005	-	-	-	-
2006	3	7	10	62.5
2007	-	-	-	-
2008	-	4	4	25
2009	-	-	-	-
2010	-	2	2	12.5
Total	3	13	16	100

Table 4 results indicated that majority of the trainees 10(62.5%) graduated in 2006 while none graduated in 2007, 4(25%) graduated in 2008 while again none graduated in 2009. The least number that graduated was 2(12.5%) in 2010. These results imply that graduation of YAWID was not regular and even when they graduated, they were very few. Table 4 also shows a higher male graduates 13(81.25%) out of 16 and 3(18.75%) female graduates. All Females graduated in 2006. The implication is that not many females reach graduation. Another implication is that either the females drop out of school before they reach vocational classes or parents fail to take them to school-due to fear of their safety. Female trainees are prone to sexual abuse as one of the parent stated:

“She says they force her to have sex but we have never witnessed and at one time we thought she is becoming mad until the head teacher said she is not going to work again.”(Personal Communication, Female parent no 2, 2011).

Generally, vocational class graduation seemed to reflect individual completion of a course as per the vocational assessment process. One of the vocational teachers when asked how they knew YAWID was ready for graduation said:

“We have a process called transition assessment process where we do observation as certain skills are performed and gauge them as perfected or still need to be improved. Again, we assess the completed work and see whether it is okay.” (Personal Communication, Female vocational teacher no. 1, 2011).

Graduation from vocational institution is very vital since these persons will have gained skills of community adjustment. Integration on the positive side gives YAWID a sense of belonging by making them feel part of the society. It builds their self-confidence when they work together with persons without disabilities. This also sensitizes the society to appreciate their ability. However, although integration stands out as being the preferred practice, it needs to be planned from inception of skill training to graduation so that it caters for the needs of YAWID. Having known the number of graduates from 2005-2010, the researcher sought to know how YAWID were accredited after they completed the courses and the results were as presented in Table 5.

Table 5
Accreditation of YAWID

Accreditation	Gender		Frequency	Percentage
	Female	Male		
Employed without certificates	2	7	9	90
Not Employed but with certificate (DIT)	1	-	1	10
Total	3	7	10	100

From the above analysis, it is only 1(10%) female who had DIT certificates with grade tests III, II, I. The rest 2(20%) female and 7(70%) male graduates did not have any certificate to show that they completed vocational training. At the same time, the one with the certificate was not currently employed. It is evident that most of the graduates with intellectual disabilities were not accredited after vocational training.

The study findings revealed that only one of the graduates had some form of accreditation of DIT trade tests. Others were not accredited. They had no certificate to show that they completed vocational training. It was also noted that all the employed YAWID did not have any certificate to show that they are employed having completed vocational training. This resulted from what Kweku (2000) complained as trainees not being selected by the use of formal vocational assessment tools and not being offered the opportunity to practice in real workshops in integrated settings. The only trainee with grade tests certificate was a class eight leaver who joined vocational school just for the course. However, she had no employment. From this result, it shows there is a need to advocate the vocational training of females and more so advocate for their employment so as to balance their male counterpart. Vocational trainers and parents require seminars to enlighten them on the need to cater for the female trainees to facilitate their community integration not only in employment but even in other forms of community participation.

Effectiveness of Transition Services

Respondents were asked to mention transitional services that were offered in vocational institutions as preparation upon community integration of YAWID. One transition service mentioned by majority of the respondents was guidance and counseling. Most of the YAWID said they were given advice by the teachers on how to look for jobs and manage themselves.

Interview with the head teacher revealed that there were several transitional services offered to YAWID before being integrated into the community such as follows:

These trainees are offered individualized transitional programme where one is supported to make choices of the skills to take as well as the kind of job they should choose. They are also offered guidance and counseling and self-management skills e.g. cooking, grooming. Parents meeting to guide on their sons or daughters career choices are held. We normally look for internship for them for 6 months and later they come back for graduation and we also give an exit package, e.g. we may buy a machine, roll of clothe and others to help them start a self-reliance life by starting small business (Female head teacher, 2011).

While these should be the ideal transitional services offered to YAWID before graduation, the head teacher emphasizes that it has not always been possible due to funds problem and also the issue of qualified personnel as technical special education teachers. She said curriculum had also been a problem since there was no vocational curriculum for learners with intellectual disabilities. She continued to say they adapted the regular vocational curriculum to suit all vocational training individuals depending on their level of ability and acquisition of the skill. A vocational teacher who is also a parent of YAWID also argued that these transitional services have not always been effective due to time factor. This is what she said:

“Very little services are offered because of time factor. Vocational trainers do not have enough time to cater for the trainees I being one and I have done the rest at home.” (Personal Communication, Female vocational teacher no. 1, 2011).

In terms of effectiveness of transitional services the study found that trainees were offered services such as individualized transitional programmes where one was supported to make choices of skills he/she would train in and thereafter look for jobs related to what they trained in. Other services included guidance and counseling, internships and exit packages to start self-reliance business. This agrees with Taylor (1997), that information to special needs students, regarding the assistance they can receive from the school and community agencies to help them prepare for and obtain jobs should be provided by the vocational specialized counselors. Taylor further supports that work study coordinators should spend half of their time with the employers and should help special needs persons enrolled in their programmes in finding work study placement through internships. However, the issue of curriculum, funds and qualified personnel was found to hinder effective transitional services. Most of the graduates were found to be employed in jobs not related to what they trained in. For example, majority of the young adult men were grounds men while they trained in carpentry and masonry. Others are not working showing a deficiency in the curriculum, lack of funds to start carpentry sheds for them as well as lack of qualified special education vocational personnel.

Follow- Up / Post-Institutional Support to YAWID

In determining the follow-ups and post-institutional support to YAWID post-institutional life after vocational training, the findings of the study revealed that majority of the graduates had some form of community acceptance in terms of jobs though none was working in the areas they trained in. Referring to Table7, only 2(20%) had self-employment and 7(70%) were in different areas of employment in the same institution they trained in and again doing different jobs from the courses they trained in. One (10%) had no employment at all. However, when administrators were asked whether they did follow-ups, one of them said:

“We normally make a follow-up of where they are job placed; however, we have financial constraints because the funding by the government does not cater for the job trainer expenses. So, it’s a bit hard and we get tired of using our own monies.” (Personal Communication, Female head teacher, 2011).

Another respondent who was a vocational teacher also highlighted:

“Normally we have not been able to do much but we contribute capital to those doing self-reliant business.” (Personal Communication, Female vocational teacher no. 1, 2011).

One of the YAWID interviewed whether anyone followed their whereabouts she said:

“Nobody else, it is the teachers only.” (Personal Communication, Male YAWID no. 4, 2011).

Yet another one said:

“Teachers visit me and bring me chemicals to make soap, mum has a women group that also buys threads for me and soap chemicals and I do a lot of work.” (Personal Communication, Female YAWID no. 5, 2011).

From the above comments, it seems it’s only their teachers that try to follow them after graduation and teachers also complain of fund problems and that their follow-ups are not done accordingly. One of the teachers highlighted the reason for their follow-up as follows:

They are followed to be encouraged, keep in touch with the employers, check whether skills are helping in their work places and create rapport with employers (Personal Communication, Male vocational teacher no. 2, 2011).

Parents asked over the same highlighted that teachers like to be with them to monitor and prevent their being overworked by other workers especially in the institution. YAWID asked about who supported them in their post-institutional life. The results were as tabulated in Table 6.

Table 6
YAWID Report on Post-Institutional Support

Persons supportive	Frequency	Percentage
Parents	2	20
Teachers	6	60
Parents and teachers	2	20
Total	10	100

From Table 6, majority 6 (60%) reported that it’s only their teachers that supported them even to get the kind of jobs they had. Two (20%) recommended their parents as the only supporters and especially those that were not employed. Others 2(20%) reported that both parents and teachers supported them in their daily living life after graduation.

Kraemer and Blacher (2001) confirm the findings that, little is known regarding the extent to which schools are implementing transition programmes for students with severe intellectual disabilities. It is also evident in the findings that very few employers are found. This implies that their transition is not smooth and therefore, transitional services are not effective. This should be looked into by trainers of persons with intellectual disabilities and that this training should reflect resources available in the community including human resource. This will ensure smooth community integration of YAWID. In addition, the study established that post-institutional support was highly offered by teachers rather than other members of the community. These

findings do not concur with Friend (2008) that supported employment is the practice of assisting adults with disabilities to obtain jobs in the competitive market and providing them with necessary physical instructional and social support to ensure success for the employee and satisfaction for the employer

Table 7
Types of Employment

Employment	Female	Male	Frequency	Percentage
No Employment	1	-	1	10
Grounds men/Watchmen	-	6	6	60
Teacher Aide	1	-	1	10
Self-employment	1	1	2	20
Total	3	7	10	100

The researcher sought to know the current employment status of YAWID graduates from Maria Magdalene and the response showed of the 16 graduates from 2005-2010, only 10 of them can be located where they are and most employments reflect male YAWID while females are left out to do family chores at their homes because most courses are male oriented e.g. carpentry and masonry. In our case, we have (1) teacher aide female, (2) self-employed a male and female, (6) males working in the institution, (1) other female was once employed but not working now (Female head teacher, 2011).

From Table 7, 1(10%) female of the 10 sampled YAWID was unemployed. Six (60%) males were employed as grounds men, 1(10%) female as a teacher aide while 2(20%) female and male had some kind of self-employment. The table also indicates that the few kinds of employment opportunities open to this group of graduates were basically in their own institutions with very few being self-employed. Comparing with the findings in Figure 2 in page 9, none of the above mentioned employments reflected the courses offered to these graduates in the institution. None was a carpenter, tailor or bead worker. These findings are in line with Kweku (2000) who informed that these trainees were restricted to very few trades and spent unspecified periods of training. Kamere (2004) further supports the findings when she argues that persons with disabilities are stereotyped as those incapable of performing and as a result, the education given to them is one which is inexpensive, employing little skilled manpower. In this case, it is geared towards manual training and acquisition of basic skills for survival and that's why activities of daily living skills lead to one being employed as a teacher aide. A teacher aide cleans the classroom and attends to the young ones who are not toilet trained.

Hallahan et al., (2009) further confirm the findings that adults with intellectual disabilities have high rates of unemployment but with appropriate training they can hold jobs with success. Similarly, YAWID with employment were interviewed whether they would prefer other jobs different from what they have, the results were as presented in Table 8.

Table 8
YAWID Employees Preferring Other Jobs

Response	Frequency	Percentage
Preferring other Jobs	5	71.4

Not Preferring other Jobs	2	28.6
Total	7	100

From Table 8, 5 (71.4%) of the 7 employed YAWID said they prefer other jobs while 2(28.6%) of them said they would not prefer other jobs. Most of these claimed to be working in areas they didn't train in. One of the respondents had the following to say:

I liked weaving but I don't do weaving because I was given other work (Personal Communication, Female YAWID no. 1,2011).

Women have specific traits that make them best in such skills like weaving. When the local community uses weaving products like baskets, it can be the best activity these YAWID can do in their community to earn a living. This is the reason why the respondent above still feels she would have been well-placed if she did weaving instead of other activities.

Effectiveness of Transition Services and Follow-Up Programmes

The findings also revealed that trainees in Maria Magdalene were offered a variety of transition services in preparation for their community integration. They ranged from guidance and counseling, individualized education programmes, internships and self- management skills. Further, the study realized that graduates lacked follow-ups to establish their well-being. The report revealed that it is only teachers that tried to make a follow-up and even then, there was no fund to facilitate their follow-up. One teacher said they also get tired and stop the exercise of following up. The teacher further reported funds as being the major problem because they lacked enough money to empower the self-employed graduates. This meant that these graduates did not receive encouragement either to continue working and most of them run away from places of work. Again, these individuals get overworked since no one monitors their working and some become conditioned to teachers since they are the only supporters they see around.

Conclusion

There are no well-established transitional programmes to make follow-up of the graduates and this becomes a great hindrance to their community integration. Transition of YAWID from vocational institutions has not been very smooth from school to community integration. Many young adults with intellectual disabilities reported not being engaged in other aspects of community integration apart from employment. Thus transitional services effectiveness is limited as far as community integration of young adults with intellectual disabilities is concerned. Therefore the researcher recommends further researches on YAWIDs transition from school to vocational institutions and further the extent of course relevance to their community integration.

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Family Communication: Strategies for Building Effective Partnerships and Working Relationships

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Abstract

This article offers a variety of strategies for pre-service and beginning teachers to utilize in order to create positive and effective relationships with families that are built on clear communication and trust. It is crucial for new and veteran teachers to understand the importance of successful communication with parents and families of students with special needs. Teachers and educational professionals should implement ongoing strategies throughout the school year to ensure that parents and families are educated about the approaches and services their child receives in school. Familial knowledge and understanding of the types of services and the schedule of when those services are delivered can lead to increased family involvement in their child's special education program. This involvement can ultimately increase the learning process and progress towards meeting goals and objectives for students with disabilities (Dunst, 2002; Kashinath, Woods, & Goldstein, 2006; Wellner, 2012). This article will define the following strategies: creating *master schedules*, writing a *student at a glance*, setting up *team meeting schedules* for the school year, creating *team meeting and IEP meeting agendas*, as well as explain the most effective use of *communication sheets*. These types of user-friendly approaches to establishing ongoing and consistent contact with families is necessary for family satisfaction and student success, especially for families of students with disabilities at all age levels (Bezdek, Summers, & Turnbull, 2010; Diliberto & Brewer, 2012).

Family Communication: Strategies for Building Effective Partnerships and Working Relationships

Introduction

Family involvement has become an integral part of education for students with and without disabilities. Historically, families have been involved in the education of their children for many years. In recent years, with the initiation of legislation such as No Child Left Behind (2001) and the re-authorization of IDEA (2004), it is no longer an assumption that families will have a voice in the education of their child; it is an expectation implemented by law. (Rock, 2000; Turnbull, Turnbull, Erwin, Soodak, & Shogren, 2011). While the 1997 Amendments to the Individuals with Disabilities Act (IDEA 1997, P.L. 105-17) was put into place to increase family involvement and decision making, many families continue to feel detached from the team and planning for their child (National Information Center, 1998). Teachers, service providers and administrators too often take the role of decision makers, while parents take the role of consent

givers (Rock, 2000). Research has shown that these feelings of being uninvolved are the product of several barriers that impede familial participation and decision making. Some of the many barriers include educational professionals being insensitive to cultural differences, familial mistrust of the school team, teachers having an “I know best” attitude, as well as work and time conflicts (Quiroz, Greenfield & Altchech, 1999; Rock, 2000; Sileo, Sileo & Prater, 1996). Therefore, it is more crucial than ever that teachers, related service providers, and administrators create and maintain effective means of communication with families in order to build positive partnerships. Effective communication is the foundation for promoting and enduring trust between families and educational professionals. It is trust that is imperative for successful long-term partnerships between families and educators to enhance the teaching and student learning process for children receiving special education services (Cox, 2005; Dunst, 2002; Turnbull et al, 2011, Wellner, 2012).

While undergraduate and graduate level special education teacher preparation programs are focused on the fundamentals of teacher training: teaching methods, strategies and practicum experiences, there is little time to prepare them to work with families in the context of copious state certification and college/university course requirements. Many entry-level special educators enter the field of special education with little direct experience communicating and problem solving with families. Some student teachers may have initial contact and experience with families of their students by attending IEP meetings or participating in “meet the teacher night” but they may not have training in how to effectively communicate with families of children with disabilities with opportunities to build and maintain positive, trusting partnerships by taking a lead teacher role (Hedges & Lee 2010; Korthagen, Loughran, & Russell, 2006). In some instances, friction between families and new teachers may occur. This can be easily prevented by clear and effective communication from the start of the school year as well as ongoing communication that is planned and organized (Eberly, Joshi, & Konzal, 2007).

Purpose

In this article, we offer a variety of strategies for pre-service and beginning teachers to utilize in order to create positive and effective relationships with families that are built on clear communication and trust. It is crucial for new and veteran teachers to understand the importance of successful communication with parents and families of students with special needs. Teachers and educational professionals should implement ongoing strategies throughout the school year to ensure that parents and families are educated about the approaches and services their child receives in school. Familial knowledge and understanding of the types of services and the schedule of when those services are delivered can lead to increased family involvement in their child’s special education program. This involvement can ultimately increase the learning process and progress towards meeting goals and objectives for students with disabilities (Dunst, 2002; Kashinath, Woods, & Goldstein, 2006, Wellner, 2012).

This article will define the following strategies: creating *master schedules*, writing a *student at a glance*, setting up *team meeting schedules* for the school year, creating *team meeting and IEP meeting agendas*, as well as explain the most effective use of *communication sheets*. These types of user-friendly approaches to establishing ongoing and consistent contact with families is

necessary for family satisfaction and student success, especially for families of students with disabilities at all age levels (Bezdek, Summers, & Turnbull, 2010; Diliberto & Brewer, 2012).

Master Schedules

It is quite common for students with disabilities to have cumbersome Individual Education Plans (IEPs) and many team members that comprise their specialized programs. Students can receive services that include special education teachers, speech and language pathologists, school psychologists, occupational therapists, and physical therapists. Some children may receive over ten services during the school week, creating intricate schedules in addition to the regular classroom content and activities.

Special education teachers typically have the role of case manager for students who receive multiple services, leaving them in charge of creating well thought-out schedules for students with IEPs (Turnbull, Turnbull, Wehmeyer & Shogren, 2013). Scheduling for students who require a number of services can be a daunting task, especially when taking into account the general education schedule including academic blocks, specials (Art, PE, Music, Technology, Foreign Language, etc.) and social times in class. While developing a master schedule for students with disabilities can be difficult, it is not impossible (Bugaj, 2005). The “hours” page on a student’s IEP can be overwhelming and challenging for families as well as for general education teachers to understand. Therefore, it is critical for special education teachers to create a master schedule for each student on their caseloads (see Appendix A) for all members of the child’s team including the family. This schedule should be well thought out and created with the input of the regular education teacher and varying service providers to ensure minimal transition time for students in and out of the classroom, as well as to guarantee that each student receives the appropriate number of service hours in the correct setting, as mandated by the IEP.

Individual student schedules can also assist students in organizing their day and week at school, as well as to prepare them for upcoming events, classes, and/or transitions. Families can also use schedules as a means for communication with their child at home. It is beneficial for families to review a student’s schedule before school to prepare for the day. Additionally schedules can be used after school as a tool for recalling events that happened during the school day (Downing & Hardin, 2001).

Once this schedule is created, the team should follow it for the first few weeks of school to determine its appropriateness for the student. When all service providers and teachers approve of the schedule, it should then be shared with the family. At times, communicating with families about their child’s schedule too early in the school year can be confusing or disappointing for the family if and when changes need to be made. It is recommended that teachers meet with families to explain in detail how the schedule is set up and who will be working with their child and at what points during the week, as soon as it is established. This master schedule can be explained to the parent or primary caregiver as a work in progress as the needs of students often change as the school year progresses. This schedule can also be shared with the student if appropriate.

Sharing and explaining a student's schedule with the family can prevent confusion that is often caused by a lack of or unclear communication. With a comprehensive schedule, families are more aware of what interventions are being provided, when they are occurring and who is responsible for implementing the services. Furthermore, it will be helpful when families want to contact the service providers regarding questions, concerns and home carryover (Ruppar & Gaffney, 2011).

Student at a Glance

An IEP can be an intimidating and overwhelming document for educational professionals and families alike to read through and comprehend in its entirety. It is advantageous for special education teachers and/or other service providers to create a "student at a glance" for each student and share it with the family and team members. A student at a glance is defined as a short document (2-3 pgs) that represents a student in an outline form. This document includes a student's weaknesses/areas of need, strengths, goals and objectives (using shortened, reader friendly language), accommodations/modifications, service hours, and any additional recommendations including support from a paraprofessional, communication with parents, behavior plans, etc (see Appendix B). It is recommended that the student at a glance be reviewed with related service providers, regular education teachers, specials teachers, paraprofessionals, families, administrators, and any other professionals/related service providers that may be working with the student. This document should be created at the start of the school year in order for all educational professionals to have an introductory understanding of the needs of the students that they will be instructing (Jones, 2012; Weishaar, 2001).

A revised student at a glance should be created at the culmination of an annual review or triennial review to reflect the changes in the student's IEP. Teachers, families, related service providers and other educational staff appreciate the information presented in a student at a glance and use it to help create appropriate goals and objectives for their students receiving special education services. Furthermore, this strategy is intended to promote general education teachers' knowledge of a student's IEP which will, in turn, aid in the student's learning and progress toward meeting goals and objectives, as well as support a positive inclusive experience (Jones, 2012).

Team Meeting Schedules

Many students who receive special education services require regularly scheduled team meetings with primary caregivers/families in addition to standard annual IEP meetings in order to build team cohesion and family involvement. It is most efficient to create an agreed upon team meeting schedule at the start of the year that spans the school calendar (see Appendix C). It is helpful for parents and staff members to have set dates and times for team meetings. This predetermined schedule can prevent problems that typically arise from last minute scheduling. When this schedule is created in advance, it may also prevent parental anxiety and concern about scheduling times that respect and fit their schedule. Additionally, having meetings scheduled for the entire school year creates efficiency for educational staff. This is a simple strategy that can greatly ease family/primary caregiver anxiety.

While this is a useful strategy for students whose program requires regular team meetings for families and school staff to communicate and plan, team meetings can be held at any time during the school year for students with and without IEP's if the school staff and/or families deem it necessary.

Team Meeting and IEP Agendas

In conjunction with team meeting schedules, it is also useful for school staff and parents to work together to create an agreed upon agenda prior to a team meeting or IEP meeting. Giving families a voice prior to the actual meeting assists with easing nerves, fears, and overall concerns regarding being heard, the structure and flow of the meeting, and expectations (Fish, 2008). Creating an agenda that staff members and parents are comfortable with prior to the meeting also allows parents to be best prepared for discussions and decision making when planning their child's educational program. Typically, team meetings and IEP meetings are under strict time constraints, therefore it is helpful to assign a general time frame to each agenda item prior to the meeting. While this can be difficult to strictly adhere to, it does give parents an understanding of high priority topics that will be addressed at the meeting (Ruppar & Gaffney, 2011). Receiving input from parents and sending an agenda prior to the meeting should be done in the way that works best for each family in written form. This gives staff members a written log of communication with parents. See Appendix D for an example of a team meeting and IEP meeting agenda.

Communication Sheets

Communicating regularly with parents and family members about students with special needs can be a challenging feat. The difficulty lies in accomplishing a balance among parental expectations, student needs, and teaching staff members' time, willingness and style. Daily communication between home and school can be a critical component in a child's educational growth and development (Eberly et al, 2007). Consistent written communication between home and school is advantageous for two reasons: 1) some people communicate thoughts, feelings and ideas more effectively and clearly in written form and 2) it provides a permanent product that can aid in record keeping (Hall, Wolfe & Bollig, 2003; Williams & Cartledge, 1997). When daily communication is a necessary aspect of a student's program it should be written into his/her IEP. While many teachers utilize communication sheets, they may contain ambiguous or subjective information that may lead to misinterpretation by the family. The purpose of a communication sheet is to give parents factual information about their child's day; for example, what was worked on in the resource room, in speech, in OT; what academic activities took place in the classroom; and what areas need extra practice at home. Communication sheets should not be used as an ongoing dialogue between home and school with back and forth questions and comments. Daily communication sheets are most helpful for students who are non-verbal and for those students that have difficulty recalling what occurred during the school day. Primary caregivers can then facilitate communication with their child with the information from a communication sheet.

If you are a teacher with a number of students on your caseload that require communication sheets on a daily basis, you must create a way of relaying the information in an effective and

efficient manner, while bearing in mind the legality of documentation. Below are three tips to remember when making a communication sheet that works for both teacher and parents:

- 1) Try to avoid using a notebook with blank pages, this leaves too much room for ambiguous language such as, “great day in reading,” “did well with math lesson,” or “had a super day.” There is very little meaning and information relayed in the above statements.
- 2) Develop a one page form that is broken down into various sub-sections of the student’s day. The sub-sections on the form should be based on student need (see Appendix E & Appendix F).
- 3) Remember to date and photocopy the communication sheet prior to it being sent home each day. Keep a folder of all communication sheets for each child for the school year.

Communication between teachers and families is absolutely critical to ensure ongoing student progress, learning and development. Creating a communication system that works for teachers, parents, is a key component to building a positive relationship linking home and school (Bezdek, Summers & Turnbull, 2010; Diliberto & Brewer, 2012; Handyside, Murray, & Mereoiu, 2012; Hall, Wolfe & Bollig, 2003).

Conclusion

Special education teachers along with general education teachers and related service providers and professionals create a unified team that represents many pieces of the puzzle that makes up the education of students with disabilities. The many services that a child with disabilities receives can be copious, creating complicated schedules and a variety of separate yet integrated interventions. Families have the right by law to understand the amount, frequency and timing of the services their child receives. It is crucial for both pre-service and in-service teachers to provide ongoing communication with families through clear and organized methods. In addition, those methods must be clearly communicated and tailored to meet the needs of diverse families. The strategies and approaches explained in this article are suggested for implementation for the multi-faceted teams that treat students and families with disabilities.

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Appendix A
Master Schedule

_____’s Schedule School Year _____
_____’s Class

	Monday	Tuesday	Wednesday	Thursday	Friday
8:45	Arrival/	Arrival/	Arrival/	Arrival/	Arrival/
9:00	Skill Review/	Skill Review/	Skill Review/	Skill Review/	Skill Review/
9:15	Morning Meeting	Morning Meeting	Morning Meeting	Morning Meeting	Morning Meeting
9:30	Math Workshop		Social Skills in class 9:15-9:45	Resource 9:30-10:30	
9:40	Ms. _____	Math Workshop	Math Workshop		PE 9:40-10:10
10:00	in class 9:30-10:00				
10:15	PE 10:15-10:45		Resource 10:15-10:45	Math Workshop	Resource 10:15-10:45
10:30					
10:55	Lunch/Recess 10:55-11:35				
11:00					
11:15					
11:35	SSR	SSR	SSR	SSR	SSR
11:45	Speech 11:45-12:15	Resource 11:45-12:15	Resource 11:45-12:15	Speech 11:45-12:15	Social Skills 11:45-12:15
12:00					
12:15	Reading Workshop	Reading Workshop	Reading Workshop	Reading Workshop	Reading Workshop
12:30			Ms. _____	Ms. _____	
12:45			_____ in class 12:45-1:15	_____ in class 1:00-1:30	
1:00					
1:20	Energy Break	Energy Break	Energy Break		Energy Break
1:30		OT 1:30-2:00		Energy Break	
1:45	Resource 1:45-2:45	Writing	Writing Workshop	Resource 1:45-2:15	Writing Workshop
2:00				Writing	
2:15		Music 2:20-2:50			
2:30			Music 2:30-3:05	Art 2:30-3:15	
2:45	Science/SS	Health	Read Aloud		Science/SS
3:00					
3:10					
3:20	Pack Up/Dismissal				

***Shaded areas –Service time

Appendix B Student at a Glance

Name: EP DOB: Grade: 2nd
DRA: Level 12

Strengths:

- Identifies numbers 1-30, 1:1 correspondence to 25, tell time to hour and 1/2hour
- Identify 20/26 sounds, sight word reading, answers wh questions based on a story
- Generation of ideas for writing
- Friendly, empathetic, engaging
- Motivated by peers and positive reinforcement
- Vocabulary
- Good with routines (may need reminders at times)
- Wants to please/cooperative
- Enjoys peers (increase interactive language)
- Conversations with adults

The student at a glance serves as a useful summary of the student's strengths and challenges. It is beneficial for the entire team and is best presented to the team at the start of or prior to the start of the school year to begin the planning for each student.

Weaknesses:

- Math skills: addition/subtraction to 10, count by 5's and 10's, identification of money, counting coins, telling time to ¼ hour and 5 min intervals
- Language art skills: short vowel sounds, blending phonemes, stretching words, inventive spelling
- Attention/Focus: impulsive, inconsistent, easily distracted, requires increased prompting at times
- Can be oppositional/passively resistant
- Overly dependent on adults
- Independence skills
- Assertiveness and initiation skills
- Stamina for task completion
- Morning/afternoon routines
- Sensory needs (puts things in mouth)
- Immature speech/language patterns
- Consistent redirection
- Peer interactions (initiation and sustained play)
- Fine motor coordination (writing letters and numbers), hand strength
- Decreased strength, balance and coordination
- Visual motor
- Organization

Appendix B
Student at a Glance (cont.)

Goals & objectives:

- **Reading:**
 - 1) use reading strategies to decode unknown words
 - 2) decode CCVC words with initial digraphs
 - 3) state short vowel sound when given corresponding letter
 - 4) decode CVC words
 - 5) read a passage at his reading level with appropriate phrasing with teacher modeling
- **Comprehension skills:**
 - 1) state the main idea of a story at his reading level
 - 2) recall events in order after reading a story at his level
- **Spelling/Writing:**
 - 1) encode CVC words (ie. cap)
 - 2) spell 25 high frequency sight words
 - 3) write 1-2 sentences about a picture or personal event no more than 2 prompts
 - 4) complete graphic organizer prior to writing a paragraph about a given topic (2 prompts)
 - 5) after completion of graphic organizer, write paragraph with topic sentence and 3 details
- **Math:**
 - 1) identify ones and tens place when given a two digit number
 - 2) solve addition equations with numbers 0-10
 - 3) solve subtraction equations using numbers 0-10
 - 4) skip count by 5's and 10's
 - 5) assign value to all coins
 - 6) count like coins to 50 cents
 - 7) tell time to ½ hr, ¼ hr, and 5 minute intervals

Service Hours

- SPED- LA: 2.5/wk pull out, .5/wk push in, Math: 2.0/wk pull out, .5/wk push in
- Speech- 1.0/wk pull out, .5/wk push in
- OT- 1.0/wk pull out
- PT- .5/wk pull out
- Social Skills- .75/wk pull out
- Swimming- 2.0/wk pull out

** para support for reading, writing, math, social studies/science, and lunch .5/month PT consult; .5/month OT consult; .5 per week S/L consult, communication sheet; monthly team meetings, .25/wk sped consult with reg. ed teacher

Appendix C Team Meeting Schedule

_____’s Team Meeting Schedule
_____ School Year

October:	10/5/10	10:15-10:45
November:	11/9/10	10:15-10:45
December:	12/7/10	10:15-10:45
January:	1/11/11	10:15-10:45
February:	2/8/11	10:15-10:45
March:	3/15/11	10:15-10:45
April:	4/12/11	10:15-10:45
May:	5/17/11	10:15-10:45
June:	6/14/11	10:15-10:45

This simple team meeting schedule is a very important tool not only for parents but also for school team members. This schedule alleviates a lot of confusion and miscommunication that can occur during the hectic school year. Parents often feel grounded and comfortable knowing that their meetings are on the calendar. This also provides service providers a time line to prepare in advance for each team meeting.

Appendix D
Team Meeting/IEP Agenda

Student: _____

Date: _____

1. Classroom Update

2. Social/Speech

3. Summer/1st Grade

4. Other

Appendix E
Communication Sheet

Date: _____

Classroom	
Resource	
Speech	
Social Skills	
OT	
Parent Comments	

Appendix F
Communication Sheet

Date: _____

Morning Meeting: _____

Reading: _____

Writing: _____

Math: _____

Special (): _____

Resource: _____

Speech: _____

OT/PT: _____

Social Skills: _____

Other: _____

Parent Comments: _____

ADHD in Preschool: Approaches and Teacher Training

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Abstract

Due to the prevalence of ADHD, there is a need for early intervention at the preschool level to improve children's chance of academic success in later years. Yet few preschool teachers are trained to meet the challenges children with ADHD present. This paper gives a rationale and curriculum for teacher training in ADHD, with an emphasis on Social Emotional Learning, Parent Training, and Field Experience with a Mentor.

ADHD in Preschool: Approaches and Teacher Training

The scientific status of attention deficit hyperactivity disorder (ADHD) is one of the most controversial issues in child health (Breggin, 2007; Stein, 2001). Thousands of studies have been conducted on ADHD diagnostic nomenclatures prior to the Diagnostic and Statistical Manual of Mental Disorders Text Revision, (Charach & Lckowicz, 2013; APA, 2000). Despite this long history, ADHD is not necessarily well understood among the lay public, given the many controversies and public misconceptions concerning the disorder (Jenson, 2000). Longitudinal evidence suggests that childhood ADHD persists into young adulthood in 60%-70% of the cases when defined relative to same-age peers and in 58% of the cases when DSM-IV-TR criteria and parental reports are used (Barkley et al., 2002, Keenan et al., 1997, Lavigne et al., 1996). Early studies of childhood hyperactivity excluded many children that would currently meet the DSM-TR criteria for ADHD, particularly the inactive sub-type (McGough et al., 2004).

This paper gives an overview of characteristics of children with ADHD, and discusses the prevalence of ADHD, academic strategies and the challenges children with ADHD present for preschool teachers. A rationale is given for the need for teacher training for those who teach preschool children with ADHD, and specific program of training for preschool teachers is recommended. In addition to coursework focusing on characteristics of ADHD, this program includes a supervised field experience or practicum in which prospective preschool teacher training teachers observe and work directly with children with ADHD (Bricker & Widerstorm, 1996; Rosenkotter & Stayton, 1997; Sandall et al., 2005; Macy, Squires & Barton, 2009; and Shyman, 2012). This preschool teacher training program for ADHD is innovative and supported by research. A discussion of these ideas will conclude the paper.

Overview of ADHD

ADHD is recognized as a common childhood psychiatric disorder (National Institute for Health & Clinical Excellence, 2009) and has a strong genetic, neuro-biologic, and neurochemical basis (Biederman et al., 2009; Schubiner, 2008). It is characterized by symptoms of inattention and/or impulsivity and hyperactivity which can significantly impact many aspects of behavior and performance, both at school and at home (Faraone et al., 2003). ADHD is characterized by pervasive and impairing symptoms of inattention, hyperactivity, and impulsivity according to DSM-IV (APA, 2000, 1994). The World Health Organization (WHO) (ICD-10, 1993) uses different nomenclature hyperkinetic disorder (HD) but lists similar operational criteria for the disorder. Regardless of which name is used, ADHD is one of the most thoroughly researched disorders in medicine (Goldman, 1998).

The DSM-IV-TR diagnostic criteria for ADHD were based on reviews of existing research (McBurnett, 1997) and on a field trial in which alternative diagnostic criteria were evaluated (Lahey, 2004). The DSM-IV-TR defines ADHD as a cluster of symptoms. The patient must have at least six or more out of the 9 symptoms of inattention and/or six or more out of the 9 symptoms of hyperactivity/impulsivity (Ghanizadeh, 2012; Solanto et al., 2012).

According to Ghanizadeh (2012), the proposed revision of ADHD by the American Psychiatric Association added 4 new symptoms to the Hyperactivity and Impulsivity aspect in DSM-V including: “Tends to act without thinking, such as starting tasks without adequate preparation or avoiding reading or listening to instructions, may speak out without considering consequences or make important decisions on the spur of the moment”, “Is often impatient, as shown by feeling restless when waiting for others and wanting to move faster than others”, “Is uncomfortable doing things slowly and systematically and often rushes through activities or tasks”, and “Finds it difficult to resist temptations or opportunities (A child may grab toys off a store shelf or play with dangerous objects)” (DSM-5 development, APA, 2012).

Classification of what constitutes ADHD has changed dramatically over the last 37 years, due to successive revisions of the Diagnostic and Statistical Manual. In addition impairment must be due to symptoms in two or more settings (e.g. home and school) and clear evidence of significant impairment in social, school or work functioning. The DSM IV also allows the classification of two sub-type disorders. The first subtype is predominantly inattentive in which the child only meets criteria for inattention; and second is predominantly hyperactive-impulsive in which only the hyperactive-impulsive criteria are met.

Prevalence of ADHD

The relative prevalence of the disorder is high, affecting approximately 4% of all children, although estimates vary widely from 3% to 11% or more (Zametkin & Ernst 1999). The disorder usually begins in early childhood and is characterized by excessive activity, even when the child's developmental level and limited behavioral control are taken into consideration. (Elia et al., 1999). Szatmari (1992) reviewed the findings of six large epidemiological studies that identified cases of ADHD within these samples. Prevalence rates in these studies ranged from a low of 2% to a high of 6.3%, with most falling within the range of 4.2% to 6.3%. Other studies have found similar prevalence rates in elementary school-age children, 2.5–4% (Pelham, Gnagy, Greenslade, & Milich, 1992); 4–5.5% in (Breton et al., 1999; 5–6% (DuPaul, 1991); and 7.9% (Briggs-Gowan, Horwitz, Schwab-Stone, Leventhal, & Leaf, 2000). Lower rates may result from using complete DSM criteria and parent reports 2–6% (Breton et al., 1999), and higher rates

from using just a cutoff on teacher ratings up to 14.3% (Trites, Dugas, Lynch, & Ferguson, 1979); 15.8% (Nolan, Gadow, & Sprafkin, 2001); and 23% (DuPaul et al., 2006; Power et al., 1998). Sex and age differences in prevalence are routinely found in research studies. For instance, prevalence rates may be 4% in girls and 8% in boys in the preschool age group (Nolan et al., 2001), yet fall to 2–4% in girls and 6–9% in boys during the 6 to 12 year-old age period based on parent reports (Breton et al., 1999; & Szatmari et al., 1989). The prevalence decreases again to 0.9–2% in girls and 1–5.6% in boys by adolescence (Breton et al., 1999; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993; McGee et al., 1990; Romano et al., 2001; Szatmari et al., 1989). Overall ADHD affects 2% to 9% in school age children (Biederman, 2005; Jindal, 2002).

Academic Strategies and Intervention for Young Children with ADHD

An overview of empirically supported academic interventions for students with ADHD is presented. Research now indicates that ADHD exists in pre-school children (Daley et. al., 2009). These children constitute about 3 to 7% of the pre-school-age population in the United States equivalent to approximately one child in every classroom, (Trout et al., 2007), with the number of boys being 2 to 3 times more likely than the number of girls in school-based samples (APA, 2000). As a function of their ADHD symptoms, children with this disorder experience a variety of difficulties in school settings, including difficulties with academic achievement, and peer relationships (Barkely, 2006). One way to address the problem of academic under achievement is to provide effective intervention (Trout et al., 2007). Many young children with ADHD enter kindergarten with below average skills, so academic intervention strategies should be addressed as early as possible (Daley et al., 2010; DePaul & White, 2005). Numerous studies have demonstrated that children with ADHD have poorer grades, higher rates of school failure and repeated grades, and greater rates of academic underachievement compared to same-aged and even IQ-matched peers (Loe, et al., 2008, & Barry, et al., 2002). Bauermeister and colleagues (2007) found that children with ADHD (aged 4) were likely to have educational problems; these individuals were more likely to receive special education, and have a history of suspension or expulsion.

Brock et al., (2009) suggested child-level classroom accommodations for children with ADHD such as limiting task duration, introducing breaks and dividing longer tasks up into smaller parts. Brock also recommended increasing the amount of direct instruction time a child receives (versus independent seat-work) and revising task directions to be short, specific, and direct.

Educational Laws for Children with ADHD

Two federal laws, the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 and Section 504 of the Rehabilitation Act of 1973 (Weber, 1995), are relevant for the needs of children with ADHD (Wright, 2011). The regulations implementing these laws are 34 CFR sections 300 and 104, respectively, which require school districts to provide free appropriate public education to students who meet their eligibility criteria (NASSET, 2005). Eligibility decisions about a child's need for special education and related services are made on a case-by-case basis. School districts may not arbitrarily refuse to either evaluate or offer services to students with ADHD (NASSET, 2012). Under IDEA, children with ADHD are eligible for special education services through the other health impairment category (Tresco et al., 2010). Services include accommodations and related services in the general education setting, such as

preferential seating and modified instruction (Reid et al., 1995). These commonly recommended accommodations such as preferential seating have not been studied in terms of effectiveness as yet (Leo et al., 2006).

The Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 states:
“Disability is a natural part of the human experience and in no way diminishes the right of individuals to participate in or contribute to society. Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities (p. 2648-49)”.

Almost 30 years of research and experience have demonstrated that the education of children with disabilities including ADHD can be made more effective by having high expectations for such children and ensuring their access to the general education curriculum in the regular classroom, to the maximum extent (National Research Council, 2010). IDEIA (2004) mandated that educators increase inclusive education for all children in public schools. Inclusive education has developed in three main directions: understanding the practice of inclusion as it relates to different disabilities and difficulties, understanding the factors which help build inclusive schools which can respond to diverse needs and comparing the efficiency of separate special education and inclusive education (Jenkinson, 1997). As defined by the Institute on Disability (2009), “Inclusive education is characterized by presumed competence, authentic membership, full participation, reciprocal social relationships, and learning to meet high standards by all students with disabilities in age-appropriate general education classrooms with supports provided to students and teachers to enable them to be successful (p. 1)”.

The ideal inclusive education is a concept in which children with ADHD are viewed as true full-time participants and members of their neighborhood schools and communities (Tan and Cheung, 2006). Children with ADHD educated in general education classrooms demonstrated better performance in reading and math (Cole et al., 2004), and second significantly higher in adaptive behavior when compared with similar educated in separate settings. For inclusion to be successful in schools, collaborative efforts are needed to provide services to all who need them. Teachers can play a vital role in this process and in increasing inclusive opportunities for their students with ADHD.

The Challenge ADHD Presents for Teachers in Preschool Classrooms

Up to 44% of children in special education pre-school classrooms meet the diagnostic criteria for ADHD (Zima et al., 1999). The behaviors of a child with ADHD are the main challenge for both parents and teachers. Yet there is little training specially designed to teach preschool teachers how to work with children with ADHD. If pre-school teachers understand basic behavioral principles and reinforcement, children with ADHD will be more successful in their first school experience and spend more time on task learning (Webster-Stratton et al., 2012). The challenge for pre-school teachers is to learn how to reinforce appropriate behavior skillfully as well as so they can teach social skills to children with ADHD, and teach basic skills to prepare them for school settings.

Teachers also need to be knowledgeable about behavior-psychosocial treatment (BPT) and parent training interventions (PTI). BPT and PTI should be the part of the regular curriculum for children with ADHD and preschool teachers should be trained in their use. BPT is considered a suitable first-level treatment for young children presenting signs of ADHD (Conners et al., 2001), and there is growing evidence of the efficacy of BPT for parents of children with ADHD, especially if delivered in the pre-school years (Daley et al., 2007). The success of BPT for pre-school children is based on the principle that early intervention, before the child's transition to school, and before the child has experienced secondary risk factors (e.g., school failure, peer rejection and the development of an antisocial tendency) offers the best opportunity of changing the developmental course of the disorder (Daley, 2006).

Parent-training interventions (PTI) were designed to assist parents in behavioral and/or cognitive behavioral interventions to improve the management of their child's ADHD-related difficulties (Zwi et al., 2009). Several studies showing positive effects of behavioral parent training and preschool-based behavioral programming (Gleason, 2012; Rajwan et al., 2012; McGoey et al., 2005; Sonuga-Barke et al., 2004; Webster-Stratton et al., 1999). PTI may include group-based interventions, interventions for individual parents, and direct interventions with children (Zwi et al., 2009). PTI has been shown to improve the quality of life for the family by decreasing parental stress (Schreibman, et al., 1996) and increasing leisure and recreation time (Koegel et al., 1982). PTI also can increase parents' optimism about their ability to influence their child's development (Koegel et al., 1982), which may help them sustain their efforts with their child over time. PTI can be cost effective because it requires fewer hours of direct service and also increases children's ability to generalize positive behavior (Ingersoll et al., 2006; Kashinath et al., 2006).

Best Practices in Educating Children with ADHD

Establishing educational practices and procedures that are effective and most promising remains a challenge. Controversy exists in the field of ADHD with a considerable lack of agreement with regard to strategies and methods that are most effective. The question of whether only established evidence-based methodologies should be used or whether programs should also include a discussion of methodologies with less evidence basis remains disputed (Das et al., 2013; Shyman, 2012). Simpson (2008) suggested that "there is a lack of practical information and well-designed guidelines that professionals and families can use to identify the most suitable, effective, and utilitarian methods from among the countless available interventions and treatments" (p. 3).

Rationale for Pre-school Teacher Preparation in ADHD

ADHD influences many children worldwide, particularly young children (Jonsdottir et al., 2005). Kewley (2010) estimated that 3% to 5% of preschool learners are diagnosed with ADHD in classrooms. The most recent report provided by the U.S. Centers for Disease Control (CDC) estimated that nearly 7.8 percent of school-age children demonstrate some type of ADHD (2005). This means that the typical teacher in the United States will have at least one or two students affected by ADHD in their own classrooms (Brown, 2007).

Recent data indicate that many teachers feel unprepared to teach children with ADHD (Bekle, 2004; Bussing et al., 2002; Rush and Harrison, 2008; Walter et al., 2008). The lack of expertise has created a formidable challenge for schools: to better meet the diverse and complex needs of preschool children with ADHD. Although ADHD has become common in schools, the field of pre-service teacher training with a focus on ADHD is in its infancy for elementary teachers and even more so for preschool teachers. Within this context, it is critical that ADHD receive considerable attention in any teacher preparation curriculum and in the college classroom (Rieger, 2009). A number of recent studies has demonstrated that children with ADHD are at high risk for poor academic achievement (Breslau et al., 2009; Currie and Stabile, 2006; Fletcher and Wolfe, 2008; Vitaro et al., 2005). These findings suggest that teachers today need to have a good understanding of the types of instructional and behavior management approaches that effectively promote academic engagement and achievement and achievement in these students (Martinussen et al., 2011).

Jerome et al. (2006) reported that majority of American and Canadian practicing teachers in their study did not receive training in ADHD during their teacher preparation program (i.e., pre-service training). Bekle (2004) also reported that a majority (77%) of her sample of Australian practicing teachers did not receive pre-service training in ADHD. In addition, Bekle found that very few of the practicing teachers had received “comprehensive” in-service training in ADHD during teacher training programs which specialize in ADHD. If standards and accountability measures are to be appropriately applied in the process of improving teacher quality, it is incumbent upon faculties of education to lead the way in defining, measuring and improving the preparation of quality teachers (McArdle, 2010). It is important that professional discourse and scientific research begin to focus on contributing to an evidence-based framework (Hempenstall, 2006) for pre-school and elementary teacher training in ADHD. There is a clear need for such programs based on evidence based practices in order to prepare teachers who are skilled in teaching students with ADHD.

Little attention has been specifically directed toward ADHD classroom interventions (Gureasko-Moore et al., 2007). Classroom teachers want training in intervention approaches that will assist them in effectively working with children with ADHD (Reid et al., 1995). One setting in which this training would be particularly beneficial is in an inclusive learning environment where the majority of students with ADHD are educated (Gureasko-Moore et al., 2007). According to National Association of School Psychologists (2011), there are few intervention components available for children with ADHD. These include the collaboration and consultation with families and skilled parental behavior support at home. Promoting the use of consistent approaches across home and school settings is critical along with monitoring by a school-based intervention team to ensure effective implementation of interventions and to provide adequate support for those interventions. It is important to evaluate the effectiveness of programs in meeting behavioral and academic goals along with collaboration with community agencies. It is also important for professionals to evaluate how well they are providing educational and related services to students/families. Interventions to help students with ADHD that appreciate their unique abilities and help to develop feelings of self-confidence are also important to the progress of children with ADHD.

A lack of research exists in the area of an effective evidence-based framework for pre-school teacher training in ADHD. The Council for Exceptional Children (CEC) supports the perspective that "... the rationale for having different research methodologies in special education is based on the current conceptualization of research in education and the complexity of special education as a field" (Odom, Brantlinger, Gersten, Horner, Thompson, & Harris, 2005, p. 137–148). As such, it is imperative that pre-school teacher training in ADHD beware of the amassed evidence basis (Strong, 2009) for methodologies (Lyytinen, 1987).

Currently, classroom interventions for children with ADHD focus on reducing problematic behavior and increasing task engagement (Tannock, 2007). Many children with ADHD who exhibit problem behavior will require supports and interventions that address both their behavioral and academic difficulties (Metcalf et al., 2013; Reid et al., 2004). Teachers can employ a range of antecedent and consequence-based approaches to manage student behavior (Reid et al., 2006; and Reid et al., 1998). All teacher preparation programs should ensure that the latest ADHD scientific evidence and the most recent advances in educational intervention are core components of their curriculum (Martinuseen et al., 2006) for pre-school teacher training programs in ADHD.

Conceptual Framework for Pre-school Teacher Training Programs in ADHD

It has been well-established that individuals with ADHD have specific needs that warrant focused training and knowledge. Specific and detailed guidelines are required to create a solid framework for pre-school teacher training programs in ADHD.

As noted, the National Association for the Education of Young Children (NAEYC, 2009) proposed guidelines for developmentally appropriate practices in early childhood programs serving children from birth through Age 8. As defined by NAEYC (2009), these guidelines included creating a caring community of learners, assessing children's development and learning, and establishing reciprocal relationships with families. The National Association for the Education of Young Children (NAEYC) and The National Association of Early Childhood Specialists (NAECS, 2003) proposed an additional standard for teachers: making sound decisions about teaching and learning, identifying significant concerns that may require focused intervention for individual children and also helping preschools to improve educational and developmental interventions in existing programs.

The coursework should focus on an overview of the characteristics of ADHD and methodologies, along with a practicum or field experience (Macy, Squires, & Barton, 2009; Sandall et al., 2005; Rosenkotter & Stayton, 1997; Bricker & Widerstorm, 1996; Ryan et al., 1996). An observation component should be mandated for all students, during which the student observes and/or works directly with multiple individuals (Shyman, 2012) with ADHD, as well as produces written reports on their observations and clinical experiences (Shyman, 2012).

Practicum

Pre-service programs with intensive field components (Lovingfoss et al., 2001; Keefe et al., 2000; Bay & LopezReyna, 1997; Epanchin & Wooley-Brown, 1993) require one or two

practicum experiences, and a semester or year-long student teaching placement. Programs with such extensive field experiences recognize the developmental nature of teaching (Brownell, Ross, Colón, & McCallum, 2005). Macy, Squires and Barton (2009) offer some important features of quality practicum experiences: the philosophy and intervention approaches of a pre-service program should match or at least be congruent with the philosophy and approaches used in a practicum setting, and the required duties in a practicum setting should match the teaching competencies of a pre-service teacher training program in ADHD.

Diverse opportunities should be provided to teachers in training (Rosenkoetter & Stayton, 1997) including staged learning opportunities (Winton, McCollum & Catlett, 1997). Practicum students should be able to generalize instructional strategies for children with ADHD in a variety of contexts and settings. A skilled cooperating teacher should be available in a practicum setting to model instructional strategies and provide opportunities for practicum students to engage in reflective practice with children with ADHD (Schon, 1991). Several studies have demonstrated a functional relation between feedback and the effective practices of teachers (Barton et al., 2007; Coddington et al., 2005). Practicum placements should provide competency or standards-based experiences for students, and they should allow for individualization by practicum students to meet individualized career goals for children with ADHD. Dreyer (1998) summarizes this by noting: "When beginning teacher training students spend more of their training time in schools they get the opportunity to integrate theory of education with that which they are experiencing at first hand".

The pre-service teacher applies newly acquired skills and knowledge, such as behavior management principles and activity-based intervention strategies, to promote early development (e.g., using two-or three-word sentences in conversation, remaining at a task for 5 minutes) and to increase children's self-help skills (putting on one's own coat, washing one's hands) (Macy, Squires, & Barton, 2009). Also, student teaching in the preschool environment can accelerate the pre-service student's learning process, allowing for the integration of theoretical and fundamental information from course-work, as well as practicing intervention skills taught in a pre-service student's method classes (Stayton et al., 2003; Miller et al., 2002; Bricker et al., 1996; Ryan et al., 1996). Coursework in teaching preschool children with ADHD should be included in pre-service curricula and should be presented from a comprehensive and multidisciplinary perspective. Research from the areas of education, psychology, and diagnostic practice, as well as from the field of neurobiology, genetics, biology and family should be included (Shyman, 2012; Dunst, 2007; Guralnick, 2005).

Multidisciplinary Based Approach to Methodologies in ADHD

This section presents methodologies that have been effective in working with preschool children with ADHD. Teachers draw on these methodologies to meet the individual needs of each child with ADHD.

Behavioral-based approach

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common behavioral disorders in children. According to the criteria for ADHD in the DSM-IV-TR, ADHD can be diagnosed in young children who exhibit challenging behaviors in early childhood settings if the

behavior has been present for a minimum of 6 months and the child demonstrates at least six or more of the specific behaviors of inattention or hyperactivity/impulsivity prior to the age of 7 years (Fewell et al., 2002). Fewell et al., (2002) believed that one could reasonably observe the three key domains of behavior relevant to an ADHD diagnosis within the context of play in very young children. Specifically, these areas were the activity level in executing actions and the attention and focus with which children engaged in interactions. These areas were consistent with one as in scales that had been used for children as young as 3 years (Gilliam, 1995). Best practice guidelines for attention problems (DuPaul et al., 2008) have identified several effective instructional and behavior management techniques for preventing academic and behavioral problems and improving student performance in children, including task and instructional modifications, contingency management, and proactive structuring of the classroom environment. General education teachers report a lack of confidence in their ability to implement evidence-based strategies for children identified as having ADHD (Arcia et al., 2000), suggesting that further examination of teacher classroom management practices for inattentive students is needed (Murray et al., 2008).

Brock (2009) suggested psychosocial interventions to encourage appropriate behavior such as self-management protocols that involve reminders for a student to monitor his/her behavior. Response-cost systems involve providing a student with a set number of points to start a day. Then points are deducted for problem behavior and children have an opportunity to earn points for appropriate behavior. Points are exchanged for a tangible reward or privilege at a set time. A daily report card of behavior linked to rewards provided to parent on at least a weekly basis.

The 'coaching culture' appears to be expanding rapidly in business and industry (Beckett, 2000). Coaching can be defined as 'the art of facilitating the performance, learning and development of another' (Downey et al., 1999). Coaching can focus on any aspect of a person's life in assisting personal growth. A number of different approaches to coaching exist (Fournies, 2000). Developmental coaching is often treated as a specialty that can simply be added to traditional, behavioral coaching (Laske et al., 2007). The coach also takes into account the learning style (Baker et al., 2002) of the individual child with ADHD. Behavioral coaches (BC) have specialized knowledge and skills in addressing psychosocial and academic success, and thereby are well-positioned to contribute to all three levels of prevention and intervention. BC can provide a continuum of services aimed at social-emotional prevention of problem behaviors (Crone et al., 2010; Eagle et al., 2009), early detection through screening (Cookson, 2001), and intensive intervention (Torgesen, 2006). Such services could involve a BC working directly with children with ADHD; providing team-initiated problem solving (TIPS; Todd et al., 2011) skills for school personnel; and, in all cases, working in collaboration with school personnel and parents (Kazdin, 2005).

Peer tutor

Children with ADHD often show significant amounts of off-task and disruptive behavior during instruction and independent seatwork times in the classroom (Abikoff et al., 2004a, 2004b). Large class size, lack of individualized instruction and prompts, and passive attention may be a few of the key factors that exacerbate existing difficulties of children with ADHD. As a result, they may be less likely to integrate and learn class material, and may demonstrate lower levels of work productivity (Pfiffner et al., 2006). Peer tutoring is a method of instruction in which

children with ADHD are paired with a peer tutor that aids them in learning academic material (Raggi & Chronis, 2006). This method allows for one-to-one instruction that is individually tailored to the child's academic ability and is delivered at the student's own pace (DuPaul and Stoner, 2004).

Computer-assisted instruction

Computer-assisted instruction (CAI) entails the presentation of specific instructional objectives, highlighting of essential material, use of multiple sensory modalities, division of content into smaller chunks of information, use of repeated trials, and provision of immediate feedback about response accuracy (Ford et al., 2001a; Kleiman et al., 2001; Mautone et al., 2005). This method has been suggested as a way to improve the sustained attention and work performance of children with ADHD (Raggi & Chronis, 2006). Aspects of CAI may help teachers plan individualized activities for students with shorter attention spans, allowing these students to be more actively involved in learning, and increasing confidence and motivation (Fitzgerald, 1994).

Problem-based learning

A report from the National Research Council (2001) describes three principles of learning that are directly applicable to teaching. Children develop ideas and concepts early on and the learning environment must foster both skills and conceptual understanding to make knowledge usable. Children need guidance to learn how to monitor their thinking, to be able to understand what it means to learn and how to do it. Problem-based learning (PBL) is an instructional method which uses "real world" problems as an impulse for learning. In all its manifold variations, PBL is characterized by learning which is student-centered and can occur in small student groups. Teachers are facilitators or guides. Problems form the organizing focus and stimulus for learning and are a vehicle for the development of problem-solving skills. New information is acquired through self-directed learning (Barrows, 1996). Terry Barrett (2005) authored an operational definition of PBL. First students are presented with a problem. Students discuss the problem in a small group and then students learn how to find out more in for motion. In a preschool setting the children work in small groups with an aide or teacher to discover the solution through hands on activity.

PBL is an effective method for improving children's problem-solving skills. Children with ADHD make strong connections between concepts when they learn facts and skills by actively working with information rather than by passively receiving information (Gallagher et al., 2008). PBL has also become increasingly popular across disciplines in K-12 education settings (Hmelo-Silver, 2004; Dochy et al., 2003; Torp et al., 2002; Hmelo et al., 2000; Barrows, 2000; Gallagher et al., 1992).

Reflection

Liaw (2005) introduced a model called constructivist reflection cycle (CRC) which theorizes how individual minds construct knowledge in order to approach deeper theoretical understanding. Reflection provides opportunities for children with ADHD to revise misconceptions and develop deficient understanding. A CRC model is divided into three concepts: An individual expresses (individual mental models), receives comments about their knowledge, and reflects and shapes preliminary perceptions into new expressions. Children with

ADHD reach this stage through learning and prior task performance that becomes structured into meaningful units in memory (Sajadi and Khan, 2011).

Social-emotional learning

A prominent characteristic in children with ADHD is impairment in social functioning. A profound impairment in social functioning is one of the defining features of ADHD. Although many children with ADHD may want to interact with others, they often do not have the necessary skills to effectively carry out social exchanges (Scattone, 2007). SEL was developed as a conceptual framework in 1994 and focuses on the emotional needs of children with ADHD (Greenberg et al., 2005). SEL is defined by the Collaborative for Academic, Social & Emotional Learning (CASEL) as “the process of acquiring the skills to recognize and manage emotions, develop caring and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively” (CASEL, 2006, p. 2). SEL programs for young children seek to promote various social and emotional skills and have been linked to positive social and academic outcomes (Payton et al., 2008). A review on SEL programming conducted by the CASEL found that SEL programs yielded many benefits for children (Payton et al., 2008). Key competencies are taught, practiced, and reinforced through SEL programming (CASEL, 2006). Some of these key competencies are: self-awareness; identification and recognition of one’s own emotions, recognition of strengths in self and others, a sense of self-efficacy, and self-confidence. Especially important for a child with ADHD are social awareness, impulse control, stress management, persistence, goal setting, and motivation. The SEL programs build relationship skills, cooperation skills for seeking and providing help, and communication. These competencies are taught most effectively within caring, supportive, and well-managed learning environments. Development of autonomy, self-discipline, and ethics is more likely in environments in which mutual respect, cooperation, caring, and decision making are the norm (Bear, 2005).

Research shows that SEL has positive effects on behavior and academic performance; SEL benefits physical health is essential for lifelong success; and reduces the risk of maladjustment, failed relationships, interpersonal violence, and substance abuse (CASEL, 2008; Wang et al., 2004; Greenberg et al. 2005; & Raver, 2002). Maurice et al., (2006) reported that well-designed and well-implemented SEL programming enhances social-emotional competencies (e.g., assertiveness and communication skills), reduces internalizing and externalizing disorders, and improves academic performance. Young children cannot learn to read if they have problems that distract them from educational activities, problems following directions, problems getting along with others and controlling negative emotions, and problems that interfere with relationships with peers, teachers, and parents (Gifford-Smith et al., 2003). Learning is a social process (Zins et al., 2004, p. 1-14). The National Education Goals Panel (1996) recognized that a young child must be ready to learn, e.g., possess the pre-requisite skills for learning in order to meet the vision and accountability mandates of academic achievement and school success.

Predominant Issues in Pre-school Teacher Training for Children with ADHD

Effective teaching in the classroom is increasingly important (Darling-Hammond, 2006) in preparing pre-school children with ADHD for elementary school. Pre-school teacher training in ADHD must frame the concept of teacher education beyond simply standards and assessments to

show mastery, using a multi-faceted training program which includes hands-on practical experience with many modalities. It must include experimental, practical, and philosophical knowledge of and engagement with the pertinent issues in the field of education for children with ADHD.

McArdle (2010) proposed three tiers of comprehensive teacher education. What teachers need to know and do to become quality teachers (e.g., discipline and content knowledge, curricular knowledge, pedagogical knowledge, and knowledge of self and culture), the current climate of accountability measures and standards, and the visibility of learning, a shared sense of the whole task, purpose, or goal of education. By focusing on specific characteristics of ADHD, a framework of comprehensive and multidisciplinary approaches, and an opportunities for self-evaluation, as well as a focus on EBP, and discussion of the purpose of teaching, the program proposed below meets these guidelines as a comprehensive program of pre-school teacher training.

A growing body of research confirms that in preschool teacher training those who participate in fieldwork combined with course work are better able to understand theory, to apply concepts they are learning in their course work, and to support student learning (Koerner et al., 2002; Denton, 1982; Henry, 1983; Ross, Hughes, & Hill, 1981; and Sunal, 1980). Recent studies of personal preparation suggest that immersing teachers in practice with actual materials and working on particular concepts using these materials can be particularly powerful for teachers' learning (Darling-Hammond, 2006). It is important to offer and foster multidimensional, interactive, and experimental activities that provide direct engagement and application of these methodologies so preschool teachers gain skill in working with children with ADHD (Lieberman & Pointer Mace, 2008). Analyzing samples of student work and teachers' plans, videotapes of teachers and students in action, and cases of teaching and learning can help teachers draw connections between generalized principles and specific instances of teaching and learning (Ball & Cohen, 1999; Hammerness, Darling-Hammond, & Shulman, 2002; Lampert & Ball, 1988).

An Ideal Preschool Teacher Training Program in ADHD

According to United States Centers for Disease Control, nearly 7.8% of school-age children demonstrate some type of ADHD in the classroom (Journal of American Medical Association, 2005). Jerome et al. (2006) reported that majority of American practicing teachers in their study did not receive training in ADHD during their pre-service teacher training program. Based on the review, additional teacher training programs need to be developed. To provide a prototype preschool teacher training graduate course proposed below that is designed to train preschool teachers to accommodate children with ADHD in their preschool special education classrooms. A program of course work in ADHD combined with field placement is proposed for the prospective teachers. These field placement experiences are designed to teach theory along with hands on experience in using the proposed competencies in relevant ways in preschool classrooms with children with ADHD. The proposal is designed to address problems associated with inadequate preparation of educators who will teach children with ADHD in preschool classrooms.

It is important for in-service teacher training students to study, understand, and implement different modes and theories of teaching in order to ensure that the most appropriate means of service delivery is being provided to children with ADHD at the preschool classroom (Lovaas, 1996; Scheurmann & Webber, 2002). This will among the first preschool teacher training project proposed specifically for ADHD, and the unique structure of the five term program is outlined below. To be admitted to this graduate program, students would need an earned bachelor degree in education to ensure adequate background knowledge. The proposed coursework and field placement for the preschool teacher training program in special education will be described and summarized below (Table 1).

Table 1
Proposed Course Schedule

Summer term I	Fall term	Winter term	Spring term	Summer term II
Overview of ADHD (4 credits)	Educational & Social Development of Children with ADHD (3 credits)	Curriculum & Educational Assessment for Children with ADHD (3 credits)	Behavioral Management & Classroom Intervention for Children with ADHD (3 credits)	Child-Family Interventions for Children with ADHD (2 credits)
	Practicum I: Educational & Social Development (2 credits)	Practicum III: Curriculum & Educational Assessment (2 credits)	Practicum V: Behavioral Management & Classroom Intervention (1 credit)	Practicum VII: Child-Family Intervention (1 credit)
Diversity in ADHD Education (2 credits)	Collaborating with Families (2 credits)	Special Education Law (3 credits)	Collaborative Educational Planning (1 credits)	Transition Plan for Children with ADHD (1 credit)
Research Methods of Educational Analysis (4 credits)	Behavioral Assessment for Children with ADHD (3 credits)	Differentiated Instructional Teaching Methods for Children with ADHD (3 credits)	Language Disorders in Young Children with ADHD (3 credits)	Overview of Assistive Technology for Children with ADHD (1 credit)

	Practicum II: Behavioral Assessment (1 credit)	Practicum IV: Differentiated Instructional Teaching Methods (1 credits)	Practicum VI: Language Disorder in Children with ADHD (1 credits)	Final Supervised Field Practicum VIII (6 credits)
Total Credits: 10	Total Credits: 11	Total Credits: 12	Total Credits: 9	Total Credits: 11
Total 53 Credits				

The majority of coursework will focus on pedagogy and curriculum, developmental characteristics, educational, language, and social development, family dynamics, behaviors, transitions, differentiated instruction, research methods, assistive technology, and field practicums (Martin, 2012; Ploog et al., 2012; Connor et al. 2010; DuPaul et al., 2008; Brabeck & Shirley, 2003; Barkley et al., 1996; Cantwell, 1996).

Summer term I

Theory will be paired with practice throughout the program. Preschool teacher training students will take three graduate level courses, and will earn 10 graduate credit hours. They will take an overview of ADHD and diversity in ADHD education. Students will also take research methods in educational analysis. The main purpose is to introduce, through a sequence of courses, the knowledge and skills essential to success in working with children with ADHD.

Fall term

During the fall term the students will complete three courses along with two practicums. They will take theory of educational and social development of children with ADHD and a field experience where they can observe and put these ideas into practice. The behavioral assessment for children with ADHD will be paired with a field experience. The students will earn 11 graduate credits. During practicum, the preschool teacher training students will be working in preschool classrooms with students with ADHD under the supervision of qualified professionals and university supervisors. Throughout this term, preschool teacher training students will work in preschool classrooms with children with ADHD to gain skills in educational, social development assessment and behavior assessment for children with ADHD.

Winter term

Preschool teacher training students will take two courses that are paired with a practicum and a third course in and will earn 13 credits. Students will work with qualified professionals and university supervisors to gain experience about curriculum and educational assessment, and differentiated instructional teaching methods for children with ADHD. Students will also observe skilled teachers at their practicum site and write reflections about the curriculum and educational assessment plans for children with ADHD. Students will develop and implement lesson plans using differentiated instructional methods.

Spring term

This term the preschool teacher training students will follow the same pattern of two courses paired with practicums associated with two courses. Students will take theory of behavior management and classroom intervention for children with ADHD along with field experience. Theory of language disorders in young children with ADHD will be paired with a practicum where students will be observing, and learning from a certified speech language pathologist. Preschool teacher training students will be working in preschool classrooms with children with ADHD to gain practicum skills in the field of language development, behavior management, and classroom management. The students will also take collaborative educational planning and will earn 12 credits.

Summer term II

Summer term will follow the same pattern: three graduate courses along with two practicums, earning a total of 14 graduate credits. Students will take theory and practicum of child-family intervention for children with ADHD. They will also take transition planning for children with ADHD, and overview of assistive technology for children with ADHD. They will complete their final supervised field practicum in a preschool ADHD classroom under the supervision of qualified teachers and university supervisors. In this term, the preschool teacher training students will complete their course work. They will also appear for an oral presentation. Satisfactory completion of the oral presentation will be necessary to obtain the degree. This training will enhance their knowledge and skills as professional educators in field of preschool ADHD, and prepare them to meet the needs of children with ADHD.

Conclusion

The nature and prevalence of ADHD in children, and the challenges children with ADHD bring to the pre-school classroom were discussed in the paper. Methodologies for behavior management that research has shown to be effective for children with ADHD were discussed. Evidence-based strategies to support children with ADHD were reviewed and the need for social skills instruction for children with ADHD was discussed.

The role of the preschool teacher is important in optimizing the early development of children with ADHD. Many preschool teachers are not aware of what researchers have learned and the information given in this program is practical and immediately useful to teachers, in working with children with ADHD. Since attention deficit hyperactivity disorder is a complex disorder, surfacing in the preschool years and manifesting symptoms (full and/or partial) throughout adulthood, it is not surprising that there are no simple teaching methodologies agreed upon by all. However, since the needs of children with ADHD are specialized, research findings support that children with ADHD will benefit from specialized programs at the preschool level, if their teachers are trained to meet their needs.

This paper proposed a conceptual framework and ideal program of study to train preschool teachers to work with children who have ADHD. Research (Corkum et al., 2005; Wender, 2004; Zentall & Javorsky, 2007) supports the design of this training program, indicating that hands-on practical field experience in addition to coursework, combined with supervision and feedback from an experienced and certified teacher, will be more effective than coursework alone. Special

education law has mandated that educators must meet the needs of each individual child. Therefore, preschool teacher training in the field of ADHD that is evidence based is essential in order to meet the needs of individual children. This teacher training program constitutes first steps in helping teachers meet the needs of preschool children with ADHD. Further research is needed to determine what kind of teacher training best prepares teachers to work with children with ADHD, and which teaching methodologies are most effective for children with ADHD in the preschool classroom.

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Practitioners' Perceptions of Their Knowledge, Skills and Competencies in Online Teaching of Students with and without Disabilities

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Abstract

The need for skilled teachers in online learning environments is presently evident and projected to grow into the future. A survey of education practitioners ($N = 127$) about their knowledge and competencies in online teaching of students with and without disabilities found that they generally recognized the importance of online learning and the specialized competencies it requires. However they lacked confidence in both themselves and their colleagues to effectively use online learning environments in their teaching, and were particularly unprepared to teach students with disabilities. Although many indicated that they currently taught online or blended courses, they had low awareness of online learning platforms, which hold promise for individualizing education for students with and without disabilities. A call is issued to address this lack of knowledge, skill, and competency in online instruction among current and future educators.

Practitioners' Perceptions of Their Knowledge, Skills and Competencies in Online Teaching of Students with and without Disabilities

In recent years, K-12 online and blended learning have entered the mainstream of American education, providing opportunities for students across the academic spectrum in all 50 states and the District of Columbia (Repetto, Cavanaugh, Wayer & Liu, 2010). A current report estimates that several million students, or slightly more than 5% of the U.S. K-12 population, participate in some form of online or blended learning (Watson, Murin, Vashaw, Gemin, & Rapp, 2012). To date two main reasons students are enrolling in online courses are for advance placement and credit recovery purposes (Watson et al., 2012). This enrollment trend is slowly changing, as many states are now beginning to see the importance of preparing students to take online courses before they graduate in order to prepare them for college or career readiness. Four states now require all students, with limited exceptions, to complete at least one online learning experience in order to graduate from high school (Alabama State Board of Education, 2008; Brown, 2012 [Virginia]; Florida Department of Education, 2011; State of Michigan, 2012) and some states (e.g. Georgia and Idaho) are encouraging students to have an online learning experience before graduating.

As states begin to require students to take online courses in order to graduate, rates of online enrollment will continue to climb, creating a demand for more teachers to have the knowledge and skills necessary to teach a more diverse population of students, including students with disabilities, within online learning environments. Currently, the best available estimate of the proportion of students in online or blended courses who also receive special education services is 6% (Watson et al., 2011). This estimate, however, may be considerably under-representing the real rate of participation among students with disabilities in online environments because districts and states currently do not have to report the online courses students take for credit recovery or supplemental purposes.

In 2009, survey results from state directors of special education found that 12 states' virtual public schools served students with disabilities (Müller, 2009). The challenges these schools faced included inadequate preparation to serve students with disabilities, difficulties revising curriculum to meet accessibility requirements, inability to meet the needs of students with severe disabilities, lack of communication between students' schools of residence and online school, difficulty ensuring that students with disabilities received sufficient support, insufficient staff for providing services to all enrolled students with disabilities, and lack of adequate funding (Müller, 2009). A more recent survey (Authors, 2012) of state special education directors indicated the number of states that include students with disabilities in online learning has more than doubled to 25 states. Many online programs now serve a full range of disability categories, including students with specific learning disabilities, emotional disturbance, autism, and other health impairments.

Teaching Online

Supporting and elaborating on the challenges that state special education directors identified in 2009, many authors are starting to note that online and blended course instruction have technological and pedagogical differences with traditional face-to-face instruction that require a distinct set of instructor competencies (e.g., iNACOL, 2011; Learning Technology Center, 2010; National Education Association, 2012; Southern Regional Education Board Educational Technology Cooperative, 2009). Skills unique to online learning include asynchronous communication, facilitating online discussions with and between students, posting content in forms that are accessible for students with disabilities, and integrating sound pedagogy with the technology in ways that result in student collaboration and knowledge acquisition (Ferdig, Cavanaugh, DiPietro, Black, & Dawson, 2009). For a comprehensive summary of the similarities and differences in online and face-to-face instruction, see Kennedy and Archambault (2012).

In addition to the technological and pedagogical differences, online teachers may also be expected to play numerous roles typically filled by other school staff members in traditional settings (iNACOL, 2011; McPherson & Nunes, 2004; Repetto et al., 2010; Salmon, 2003). An online educator, for example, may be required to serve as a teacher, instructional designer, course facilitator, local key contact, administrator, mentor, technology coordinator, and even guidance counselor (Ferdig et al., 2009).

The current demands of K-12 online education necessitate that teachers be fully prepared with effective pedagogical strategies and equipped to perform many roles (Duncan & Barnett, 2009).

Yet, Dawley, Rice, and Hinck (2010) reported that most K-12 online teachers rely on their training for and prior experiences in teaching traditional classrooms rather than on formal education in online and blended instruction. For instance, only 12% of entry-level online teachers and 43% of those with 6 to 10 years of classroom teaching experience participated in college or university courses in online instructional methods. This general lack of preparation in the theories and practical skills needed in online educational environments has been a cause for concern (Duncan & Barnett, 2009; Kennedy & Archambault, 2012; Rice & Dawley, 2009).

Teaching Students with Disabilities

Compounding the lack of preparation for online instruction, most online teachers have little or no experience working with students with disabilities in face-to-face or in an online environment (Dawley et al., 2010). As a result, nearly two-thirds (64%) of online teachers surveyed indicated that their highest need for professional development was in how to meet the needs of students with special needs in online learning.

To the extent that current online educator professional development programs address students with disabilities, the focus is typically on accessibility issues (i.e., how to use captioning media, making web pages accessible to screen reading software) and not on understanding the unique learning needs of students with disabilities (Fichten et al., 2009; Weir, 2005). This limited scope of professional development is especially concerning because most online delivery platforms address sensory and physical accessibility, but require teachers to identify, develop and implement online accommodations that center on learning or cognitive accessibility demands (Kennedy, Evans, & Thomas, 2010). Cognitive accessibility demands relate to system features that allow a learner to perceive, understand, navigate and interact within the online delivery platform.

Additionally, online educators may not understand evidence-based practices for meeting the individual needs of students with disabilities (e.g., explicit instruction, specialized interventions). Likewise, they may have no prior experience or professional development to guide them through the legal requirements associated with special education services (e.g., IEP planning).

Survey Purpose

Based on the current enrollment trends and graduation requirements, online and blended learning is expected to continue growing at an accelerated rate, with estimates as high as 50 percent of all secondary courses going online by 2019 (Christensen & Horn, 2008). The continued growth in online learning coupled with the increased inclusion of struggling students and those with an identified disability will require more teachers to teach in online and blended environments. To be successful teachers must have the skills to integrate pedagogy and evidence-based practices with online technology, facilitate online communication and collaboration, carry out new roles and responsibilities, and fulfill all or part of the special education requirements. These tasks are decidedly difficult for well-prepared and experienced teachers, and perhaps insurmountable challenges for teachers without sufficient education or experience. The field is in need of a better understanding of what is being done, and what should be done in professional development and teacher preparation programs to prepare teachers to meet their roles and responsibilities in online and blended learning. This article presents survey findings for the purpose of developing a better understanding of practitioners' perspectives of online learning and

their preparedness to teach students with and without disabilities. From these findings inferences are made to inform future examinations that may guide revisions to teacher preparation programs.

Methodology

The research team chose an exploratory survey method to identify education practitioners' perceptions of the importance, knowledge, skills and competencies for teaching in online learning environments, both in general and with respect to students with disabilities.

Survey Instrument

The researcher-created survey is a compilation of questions that address three broad topics: (a) the perceived importance of online learning for students with and without disabilities (3 questions), (b) issues related to preparedness of practitioners to teach online in general (4 questions), and (c) perceived preparedness to teach students with disabilities online (2 questions). The survey used Likert-like and other rating scales appropriate to each of the items shown in Figure 1, and was available in both online and paper formats.

Figure 1. *Survey Items*

Importance of Online Learning for Students with and without Disabilities

1. Given the growth in K-12 online instruction, how confident are you that online instruction will play a significant role in improving the quality of instruction experienced by normal-achieving students?
2. Given the growth in K-12 online instruction, how confident are you that online instruction will play a significant role in meeting the needs of students with mild to moderate disabilities?
3. Given the growth in K-12 online instruction, how confident are you that online instruction will play a significant role in meeting the needs of students with significant/severe disabilities?

Preparedness to Teach Online in General

4. Teachers need a unique set of skills/competencies to effectively teach online.
5. How confident are you of your ability to effectively use online environments to meet the needs of the students that you teach?
6. Consider the majority of your colleagues, how confident do you feel in their ability to effectively use online environments to meet the needs of students they teach?
7. Teachers are receiving the kinds of professional development that enables them to effectively use online environments in their teaching.

Preparedness for Teaching Online with Students with Disabilities

8. Teachers have sufficient knowledge, and skills for how to effectively teach individuals with disabilities in online environments.
9. Current learning management systems provide teachers with the necessary tools/resources to support struggling learners in online environments.

Sample

A convenience sample of volunteers ($N = 127$) was drawn from attendees at four professional conferences. Twenty-six percent ($n = 33$) of the respondents attended the International Society for Technology in Education (ISTE) conference held June, 2012 in San Diego. The conference was a comprehensive education technology conference with participants from around the world. Twenty-five percent ($n = 32$) of respondents attended the Strategic Instruction Model[®] (SIM) conference held July, 2012 at the University of Kansas, which drew 134 educators from across the nation who worked in school districts, universities, and independently as professional developers. SIM[®] promotes strategies for effective teaching and learning of critical content. Thirty-eight percent ($n = 48$) of respondents attended the Instructional Coaching Institute conference on Partnership Principles held August 2012 at the University of Kansas, which drew 81 educators who serve as coaches for other teachers. Lastly, 11% ($n = 14$) of respondents attended the Center for Applied Special Technology (CAST) 2012 Summer UDL Institute titled *Universal Design for Learning (UDL): Addressing the Variability of All Learners*. This three day institute was designed for individuals and teams of K-12 classroom teachers, special educators, curriculum supervisors, staff developers and administrators who were interested in learning about and applying UDL to practice. Although a varied group of respondents, the sample represents teacher educators, administrators, teachers, and other professionals engaged in K-12 instruction, especially targeted in the use of technology, the education of students with disabilities, or both.

Overall, 87% ($n = 111$) of respondents completed the survey on paper and 13% ($n = 16$) completed the survey online. The respondents' primary educational roles and the level at which they provide instruction are profiled in Table 1. Teacher educators and K-12 general educators were the two largest groups of respondents, with twice as many respondents from secondary level.

Table 1
Survey Respondent Profiles

	<i>n</i>	Percent of respondents
Primary educational roles		
Teacher educator	34	27%
K-12 general educator	28	22%
Other roles	22	17%
Administrator	18	14%
K-12 special educator	9	7%
Technology specialist	7	6%
Related service personnel (OT/PT/SLP, etc.)	3	2%
Not reported	6	5%
Instructional contexts		
Secondary	58	46%
Elementary	29	23%
Higher education	9	7%
Early childhood	2	1%
Non-instructional role	29	23%

Proportion of instruction delivered online		
0 – 25%	97	77%
26 to 50%	17	13%
51 to 75%	3	2%
76 to 100%	5	4%
Not reported	5	4%

Note. *N* = 127

Data Analysis

To examine differences across respondents' primary educational roles (Table 2) and instructional contexts (Table 3) one-way ANOVAs were performed for survey items. The distributions of all variables were checked for normality. None of the variables required transformation to meet the assumptions for ANOVA. Levene's tests indicated that assumption of homogeneity of variance was violated for the analysis of educational roles for one item (regarding learning management systems), and one item for instructional contexts (regarding teachers' need for unique skills to teach online). These items, therefore, are omitted from the ANOVA.

Table 2

Difference across Educational Roles

Items	Educational roles	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>F</i>	<i>Sig.</i>	η^2
Importance of Online Learning for Students with and without Disabilities							
Significance of online instruction for normal-achieving students	K-12 General Educator	28	3.11	1.10	0.37	.87	0.01
	K-12 Special Educator	9	3.67	1.00			
	Administrator	17	3.12	1.32			
	Technology Specialist	7	3.43	1.27			
	Teacher Educator	34	3.26	1.38			
	Other	22	3.32	1.09			
	Total	117	3.26	1.21			
Significance of online instruction for students with mild to moderate disabilities	K-12 General Educator	27	2.96	1.29	0.13	.98	0.01
	K-12 Special Educator	9	3.00	1.50			
	Administrator	17	2.88	1.27			
	Technology Specialist	7	3.29	1.25			
	Teacher Educator	34	2.91	1.55			
	Other	22	2.82	1.30			
	Total	116	2.93	1.36			
Significance of online instruction for students with significant/severe disabilities	K-12 General Educator	27	2.56	1.40	0.59	.701	0.03
	K-12 Special Educator	9	2.56	1.74			

Items	Educational roles	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>F</i>	<i>Sig.</i>	η^2	
	Administrator	17	2.47	1.42				
	Technology Specialist	7	2.86	1.57				
	Teacher Educator	34	2.21	1.30				
	Other	22	2.09	1.27				
	Total	116	2.37	1.37				
Preparedness to Teach Online in General								
Teachers need a unique set of skills/competencies to effectively teach online.	K-12 General Educator	28	4.14	.80	1.45	.21	0.06	
	K-12 Special Educator	9	4.33	.71				
	Administrator	17	4.41	.51				
	Technology Specialist	7	4.71	.49				
	Teacher Educator	34	4.44	.79				
	Other	22	4.59	.50				
	Total	117	4.40	.70				
	Teachers are receiving the kinds of professional development that enables them to effectively use online environments in their teaching.	K-12 General Educator	23	2.26	1.05	0.20	.96	0.01
		K-12 Special Educator	9	2.33	1.32			
Administrator		17	2.29	.85				
Technology Specialist		7	2.14	.69				
Teacher Educator		30	2.37	.89				
Other		22	2.14	.64				
Total		108	2.27	.89				
How confident are you of your ability to effectively use online environments to meet the needs of the students that you teach?		K-12 General Educator	28	2.32	.86	1.43	.22	0.06
		K-12 Special Educator	9	2.44	1.01			
	Administrator	17	2.82	1.33				
	Technology Specialist	7	3.29	.49				
	Teacher Educator	32	2.94	1.32				
	Other	19	2.84	1.21				
	Total	112	2.73	1.16				
	Consider the majority of your colleagues, how confident do you feel in their ability to effectively use online environments to meet the needs of students they teach?	K-12 General Educator	28	2.11	1.07	0.14	.98	0.01
		K-12 Special Educator	9	2.33	.87			
Administrator		17	2.12	.93				
Technology Specialist		7	2.00	.82				
Teacher Educator		33	2.09	1.07				

Items	Educational roles	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>F</i>	<i>Sig.</i>	η^2
	Other	21	2.19	.75			
	Total	115	2.13	.95			
Preparedness for Teaching Online with Students with Disabilities							
Teachers have sufficient knowledge, and skills for how to effectively teach individuals with disabilities in online environments.	K-12 General Educator	24	2.04	.86	0.54	.75	0.03
	K-12 Special Educator	9	2.22	.97			
	Administrator	17	2.00	.79			
	Technology Specialist	7	1.71	.49			
	Teacher Educator	28	2.07	.81			
	Other	21	1.86	.57			
	Total	106	2.00	.77			

Note. * $p < .05$; ** $p < .01$

Table 3
Difference across Instructional Contexts

Items	Instructional Contexts	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>F</i>	<i>Sig.</i>	η^2
Importance of Online Learning for Students with and without Disabilities							
Significance of online instruction for normal-achieving students	Primary/Elementary	29	3.24	1.09	1.37	.26	0.03
	Secondary	58	3.14	1.18			
	Higher Education	9	4.00	1.00			
	Not Applicable	22	3.14	1.49			
	Total	118	3.23	1.22			
Significance of online instruction for students with mild to moderate disabilities	Primary/Elementary	29	2.97	1.27	0.90	.45	0.02
	Secondary	57	2.84	1.36			
	Higher Education	9	3.56	1.13			
	Not Applicable	22	2.73	1.45			
	Total	117	2.91	1.34			
Significance of online instruction for students with significant/severe disabilities	Primary/Elementary	29	2.41	1.21	0.61	.61	0.02
	Secondary	57	2.40	1.43			
	Higher Education	9	2.56	1.24			
	Not Applicable	22	2.00	1.38			
	Total	117	2.34	1.35			
Preparedness to Teach Online in General							
How confident are you of your ability to effectively use online environments to meet the needs of the students that you teach?	Primary/Elementary	28	2.86	1.35	4.43**	.01	0.11
	Secondary	58	2.40	.99			
	Higher Education	9	3.78	.97			
	Not Applicable	18	2.72	1.13			
	Total	113	2.67	1.16			
Consider the majority of	Primary/Elementary	28	2.18	1.02	0.82	.49	0.02

Items	Instructional Contexts	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>F</i>	<i>Sig</i>	η^2
your colleagues, how confident do you feel in their ability to effectively use online environments to meet the needs of students they teach?	Secondary	57	2.04	.94			
	Higher Education	9	2.56	1.13			
	Not Applicable	22	2.09	.81			
	Total	116	2.12	.95			
Preparedness for Teaching Online with Students with Disabilities							
Teachers have sufficient knowledge, and skills for how to effectively teach individuals with disabilities in online environments.	Primary/Elementary	26	2.35	.69	6.31**	.00	0.14
	Secondary	52	2.06	.80			
	Higher Education	9	1.78	.67			
	Not Applicable	20	1.45	.51			
	Total	107	1.99	.77			
Current learning management systems provide teachers with the necessary tools/resources to support struggling learners in online environments.	Primary/Elementary	23	2.52	.85	0.49	.69	0.02
	Secondary	46	2.35	.92			
	Higher Education	9	2.67	.71			
	Not Applicable	18	2.39	.61			
	Total	96	2.43	.83			

Note. * $p < .05$; ** $p < .01$

Findings

Importance of Online Learning for Students with and without Disabilities

The survey presented three items on which respondents rated their confidence regarding the role online instruction will play in (a) improving the quality of instruction experienced by typically achieving students, (b) meeting the needs of students with mild to moderate disabilities, and (c) meeting the needs of students with significant/severe disabilities. They ranked their levels of confidence using a 5-point Likert-like scale on which “not confident” equaled a rating of 1, “moderately confident” equaled 3, and “very confident” equaled 5. On average, respondents were more than moderately confident ($M = 3.3$, $SD = 1.2$) that online learning will play a significant role in improving the quality of instruction experienced by typically achieving students. Their average confidence level was just a little less than moderate ($M = 2.9$, $SD = 1.4$) for online learning’s role in meeting the needs of students with mild to moderate disabilities; and was less than moderate ($M = 2.4$, $SD = 1.4$) in meeting the needs of students with severe disabilities. No significant differences were found for these three items across primary educational roles and instructional contexts.

Perceived Preparedness to Teach Online in General

Several items investigated practitioners’ perceptions about the needed competencies and professional development opportunities related to online learning. In response to the statement, “Teachers need a unique set of skills/competencies to effectively teach online”, 95% ($n = 120$; $M = 4.4$, $SD = 0.7$) of respondents either strongly agreed (49%, $n = 62$) or agreed (46%, $n = 58$). In

contrast, only two participants either strongly disagreed or disagreed and five were neutral. No significant difference by primary educator role was found.

The respondents rated their confidence in both their own ability and their colleagues' ability to use online environments to effectively meet the needs of the students they teach. Again using the 5-point Likert-like scale described above, respondents rated their own ability (i.e., self-efficacy), on average, as less than moderate ($M = 2.7$, $SD = 1.2$). The responses significantly differed by instructional context, $F(3, 112) = 4.43$, $p = .006$, $\eta^2 = 0.1$. Using the Tukey HSD approach to multiple comparisons at the .05 level of significance, the higher education group ($M = 3.8$) had a significantly larger mean for this item than the secondary group ($M = 2.4$).

Respondents' confidence in the majority of their colleagues' ability effectively meet the needs of the students they teach was virtually equidistant between no confidence and moderate confidence ($M = 2.1$, $SD = 1.0$). No significant differences across primary educational role and instructional context.

Only 9% ($n = 15$) of respondents agreed that their professional development enabled them to effectively use online learning environments in their teaching. Sixty-five percent ($n = 83$) of respondents indicated professional development did not enable them to effectively use online environments in their teaching ($n = 16$ strongly disagreed; $n = 67$ disagreed), and 23% were neutral ($n = 19$), did not know ($n = 9$), or did not respond ($n = 1$) to the statement. Their responses did not significantly differ by primary educational role or instructional context.

Perceived Preparedness for Teaching Online with Students with Disabilities

Several survey items investigated perceived knowledge and skills for teaching students with disabilities online, including knowledge about online learning platforms, which hold promise for meeting the individual needs of these students. First, respondents indicated their agreement or disagreement with the statement "Teachers have sufficient knowledge and skills for how to effectively teach individuals with disabilities in online environments." Only three respondents (3%) agreed with the statement. Seventy-seven percent ($n = 87$) of respondents did not agree ($n = 26$ strongly disagreed, $n = 61$ disagreed), and the remaining 20% of respondents were neutral ($n = 10$), did not know ($n = 11$) or did not respond to the statement ($n = 2$). Mean responses to this item significantly differed by instructional context, $F(3, 106) = 6.31$, $p = .001$, $\eta^2 = 0.14$. As might be expected, the results of Tukey's HSD Post Hoc test indicated that both the Primary/Elementary group ($M = 2.4$) and the Secondary group ($M = 2.1$) showed a significantly higher mean for this item than the Not Applicable group ($M = 1.5$). No significant difference by primary educational role was observed.

The survey assessed the degree to which educators' believed the currently available learning management systems (online learning platforms) provided teachers with the necessary tools/resources to support struggling learners in online environments. Almost half (49%, $n = 62$) of the respondents viewed the systems as insufficient to support struggling learners ($n = 11$ strongly disagreed, $n = 51$ disagreed). In contrast, only 18% ($n = 23$) of respondents agreed that current systems equipped teachers to support struggling learners in online environments. One third (33%) of respondents were neutral ($n = 30$), did not know ($n = 10$) or did not respond ($n = 2$). No significant difference was observed across instructional contexts.

Discussion

The recent rapid growth in online learning signals a future in which most, if not all, K-12 students in the U.S. will engage in some form of online learning (Ferdig et al., 2009; Project Tomorrow, 2011; Repetto et al., 2010; Watson et al., 2012). Thus, not surprisingly, the education practitioners who participated in this survey were more than moderately confident in the significant role online learning will play in improving the quality of instruction experienced by typically achieving students. The more interesting finding was that they were less confident that online learning would play an important role in the education of students with mild to moderate disabilities, and had much less confidence of such a role for students with significant/severe disabilities. This lower confidence suggests that online environments may not be widely perceived as inclusive educational settings. Certainly not all traditional schools and classroom settings are fully inclusive either, but flexibility and individualization through online learning platforms and tools may offer greater opportunities to facilitate inclusion of students with disabilities. Alternatively, students who need related special education services (e.g., speech therapy, physical therapy) or a life skills curriculum may require blended learning environments, but cannot and should not be excluded from learning to use online applications. Rather, students with disabilities should be taught to relate to the world around them through these tools.

A second important finding from this survey was that most of the practitioners expressed a low level of confidence in themselves and their colleagues to effectively provide online instruction, despite the fact that many of them currently provided some online or blended instruction. Some of the challenges that cause practitioners to feel overwhelmed when teaching in online environments may be structural (e.g., student-teacher ratio). Further, a mismatch between their pre- and in-service education and the demands of their online teaching contexts may be at the core of their low self-confidence for online teaching. Indeed, only a few of those surveyed perceived the professional development they had received as having prepared them to be effective instructors in online learning environments. This finding is consistent with several studies (e.g., Archambault & Crippen, 2009; Ferdig et al., 2009; Kennedy & Archambault, 2012; Levine, 2006; Rice & Dawley, 2009) that cite a lack of education in online learning methods.

The third major finding from this survey was that a mere 3% of those surveyed indicated they had sufficient knowledge about how to teach students with disabilities in online learning environments. Given the growth in online learning in general and the high school graduation requirements in many states, the practitioners who were surveyed very likely have or will encounter students with disabilities in the courses they instruct online. Just the requirements of compliance with the federal laws (e.g. Americans with Disabilities Act, Title II, Individuals with Disabilities Education Act; see U.S. Department of Education, 2012) can be daunting to general educators. Thus, expecting online instructors to possess the specialized knowledge needed to assess, accommodate, support, and monitor academic progress for students with disabilities in online environments may appear to be an overwhelming challenge. Online courses or schools associated with a local school district may provide special educator support to the online instructor. However some unaffiliated online schools may expect their instructors to perform the

majority of the special educator role, perhaps with only consultation from an administrative special education director.

Finally, online learning proponents frequently tout the benefits of the technical platforms and tools for developing personalized learning plans and fulfilling monitoring and reporting requirements of *all* students, including those with disabilities (e.g., Graf, Kinshuk, & Liu, 2005). Thus, an opportunity exists to increase educators' knowledge about how to use online learning platforms and tools to create inclusive learning environments.

Implications for Teacher Preparation

The evident knowledge and skills gaps among current practitioners must be addressed through school or district level professional development. However, teacher education programs have significant opportunities to develop the needed skills among the next generation of educators. National standards for online teachers are starting to take shape (e.g., National Education Association, 2012; Southern Regional Education Board Educational Technology Cooperative, 2009), but little empirical evidence exists for the presence and efficacy of teacher preparation programs that teach to these online standards.

With respect to meeting needs of students with disabilities, few standards exist and research to support preparation of the special educator role in online learning environments is nascent (e.g., Brownell, Leko, Kiely, Sindelar, 2012; Cavanaugh, Repetto, & Wayer, 2011; Repetto et al., 2010). Likewise, the Council for Exceptional Children (CEC, 2008) professional standards, which describe the necessary skills for special educators to work with students with disabilities, make no mention of the unique skills needed to develop or provide accommodations for students in online learning environments (Repetto et al., 2010). CEC's current emphasis on teacher development and technology resides in the narrow area of assistive technology, setting a low threshold for what educators need to know as part of their initial preparation program and potentially limiting the role technology plays in educating students with disabilities (CEC, 2008). As a result, observers contend that teacher education programs, both general and special education, need to more purposefully prepare their students to be effective in online teaching roles (e.g., Duncan & Barnett, 2009; Kennedy & Archambault, 2012; Learning Technology Center, 2010; Repetto et al., 2010).

Limitations and Future Research

Because this survey used convenience sampling and has a relatively small sample size, no claims of generalizability can be made. However, survey findings serve an important function as a basis for formulating researchable questions and policy discussions. For instance, what are the necessary and sufficient requirements for general teacher education programs with respect to online learning? How can students with disabilities be more fully included in online learning? To what degree do general educators need to be prepared to function in special educator-like roles in online environments? Because the sample included only 7% special educators, more insight from their perspective would also be beneficial to shaping teacher preparation research and policy discussions.

Conclusion

The tremendous growth in blended or completely online K-12 instruction demands a reexamination of how best to develop teachers for these learning environments. As struggling learners and students with identified disabilities are increasingly included in K-12 online environments, the need for improved practitioner knowledge, skills and competency becomes especially relevant. Our findings suggest that educators generally perceive online and blended learning as having an important place in effective education, although it is perceived as less important for students with disabilities than typically achieving students. Practitioners also perceive the need for professional development in order to become effective online teachers. However, a majority of the educators lacked knowledge and experience with the systems that hold the potential to help them educate students with and without disabilities in online learning environments.

Online and blended learning environments can be useful tools for educating all students, including those with disabilities, if used appropriately. Both district led in-service professional development initiatives and university led pre-service teacher education programs have the potential to prepare competent online educators. However, the current state of practitioner competency to provide online and blended learning experiences to students with disabilities falls short. If we are to purposefully and meaningfully include all students in online K-12 instruction, the field needs to re-consider its current professional development priorities as well as post-secondary education programs.

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Effects of Environmental and Instructional Factors on Student Motivation and Self-Directed Learning

Anne D. Burkhalter

Abstract

This study analyzed the impact of parent involvement and integration of multiple intelligences strategies in classroom instruction on student motivation and academic achievement. The population for this study comprised of 13 elementary students receiving special education services. Parent involvement was developed and supported through weekly home activities and daily take-home folders. Multiple intelligences strategies were implemented in reading, writing, and math classes. Data collection methods included surveys, observations and reflections, teacher-student conferences, exit cards, existing records and grade reports. The findings of this study showed positive effect on both student motivation and academic achievement. Students displayed an increase in positive attitude towards assignments, activities, and school overall; and 8 of 13 students achieved an increase in academic grades.

Effects of Environmental and Instructional Factors on Student Motivation and Self-Directed Learning

As a teacher, I have been party to numerous conversations concerned with and debating the rising number of unmotivated students. Students have been increasingly described as unmotivated, lazy, behavior problems, and academically at-risk. As a special education teacher, I often find my students branded with these same descriptors and have come to believe it has grown increasingly difficult for these students to remain motivated to do well in school. Throughout my first few years of teaching I have found myself continuously reflecting on the cause of students' loss of interest in learning, and therefore, frequently question what environmental and/or instructional factors motivate learners to effectively monitor and control their own learning resulting in positive outcomes. Concerns include (a) how students become unmotivated, (b) what issues influence student motivation, and (c) what teaching methods are best for increasing student motivation.

There are two reasons it is imperative that my students are highly motivated to learn and succeed in school: (a) education will serve as the foundation for their future and (b) motivation to learn and do well aids in overcoming the daily challenges presented by their disability. My theory, with regards to motivation, rests on the idea that the continuous increase of diversity in students' backgrounds, abilities, intelligences, learning styles, and classroom instructions directly affects students' motivation and academic achievement. After review and analysis of current research, identification of contributory factors that lead to student disengagement and lack of motivation was accomplished, thus subsequently allowing me to intervene by creating a learning environment employing teaching strategies that motivate students to take control of their own learning and strive for success.

Literature Review

There are several theories that address student motivation and engagement in learning and adequate research to support their implementation. I will address four main subjects:

- 1) Motivation is a key factor in academic achievement.
- 2) Student backgrounds can impact motivation and academic achievement.
- 3) Parent involvement in education affects academic achievement.
- 4) Incorporating multiple intelligences into classroom instruction increases motivation and engagement and creates a positive learning environment for all students.

The research I found supports the need for reform in education in order to meet the needs of all students as well as to prepare them for a successful future.

Motivation is a Key Factor in Academic Achievement

In order to understand motivation, it must first be defined. Studies, in which both teachers and students were surveyed, suggest the following characteristic as elements of motivation: student holds positive beliefs about school, works hard, and has high educational aspirations (Keith, Wetherbee, & Kindzia, 1995). Research has indicated that motivation is linked to engagement and academic achievement. Students who are motivated to learn are therefore engaged in the learning process and do better in school than those who are viewed as unmotivated. (Keith, et al., 1995).

The underlying question then is, what factors contribute to lack of motivation and student engagement in school? According to a report released from Indiana University's High School Survey of Student Engagement (HSSSE), students say they are bored in class because they dislike the material and experience inadequate teacher interaction. Students further explain that material being taught in today's schools is uninteresting and irrelevant. Students expressed positive responses towards activities that included (a) cooperative learning, (b) group discussions and/or debates, and (c) open-ended and/or student-directed projects ("Students are bored," 2007).

Research also suggests that student motivation increases when there is continuous, positive interaction between teacher and students. According to Stipek's (2002) research, students are engaged and learning takes place when teachers promote effort in the classroom by emphasizing (a) participation, (b) setting high expectations, and (c) encouraging students to support each other as learners (as cited in Renninger, 2002). If students view the tasks at hand to be (a) interesting, (b) relevant, and (c) achievable, the motivation and effort needed to complete the task successfully will increase, most likely resulting in a positive outcome.

Student Backgrounds Can Impact Motivation and Academic Achievement

In a study by Keith et al. (1995) findings support the belief cited in Bruner (1996) that all students have a predisposition to learn, so why do we find that some students learn and some struggle to grasp even the most basic concepts? Previous research has shown that motivation

and engagement are linked to personal backgrounds of students (Marks, 2000). Factors such as (a) biology (ex: sex, genetics), (b) home life, (c) age, (d) personal responsibilities, and (e) others have been explanations for students' levels of academic motivation (Legg-Burross & McCaslin, 2002). How students approach different subjects and activities can be expected to vary, just as the background and basic abilities that each student brings to each subject and activity will vary (Renninger, 2002). For example, it is well documented that children from economically disadvantaged homes often begin school with significantly poorer scholastic skills and are at a greater risk for school failure than their more affluent peers (Howse, Lange, Farran & Boyles, 2003). It has also been documented that with higher levels of socioeconomic status, motivation and engagement among students is higher (Marks, 2000). When planning, it is imperative that teachers take into account students' individualities with regards to these factors and design curriculum and activities that will promote motivation and engagement for each student independently and for the class as a whole.

Parent Involvement in Education Promotes Academic Achievement

It has been my experience, as a teacher and a parent that students perform best when learning is supported and connected across all settings of their lives. Parent support in education is a vital aspect of student motivation and academic achievement. Research indicates that for students who have a substantial support system working for them, motivation and engagement are more likely to be higher than those who lack a supportive system (Marks, 2000). Over the past few years my observations have supported the idea that time management seems to be a growing problem for most families. Although I do not doubt that most parents would like the opportunity to be thoroughly involved in their child's education, realistically I feel that many families are stretched thin when it comes to spare time. Through research I hope to implement new strategies to help effectively promote parent involvement in education so that every student has a valuable support system.

Incorporating Multiple Intelligences into Classroom Instruction Increases Motivation and Engagement, and Creates a Positive Learning Environment for All Students

Teachers have traditionally looked at education from the mindset that students learn primarily through one's intelligence. This has been evident by a reliance on intellectual quotient (IQ) and other standardized testing (Pociask, A. & Settles, J., 2007). Efforts to increase student motivation and engagement have been employed in classrooms over the past decade. Examples include (a) increased use of technology, (b) new teaching strategies, (c) schedule changes, and (d) responsive classrooms. One of the more popular and well-documented efforts addressing student motivation and engagement is Gardner's Multiple Intelligences Theory (MI). Gardner suggests an individual possesses eight different intelligences. His theory is centered on the content of learning as well as the relationship between learning and eight distinctive fields of knowledge or disciplines (Silver, Strong & Perini 2000). The MI theory was originally developed as an explanation of how the mind works and not intended for use as an education policy (Passmore, 2006). The purpose was to demonstrate that because students bring to the classroom diverse intellectual profiles, one "IQ" measure is insufficient to (a) evaluate, (b) label, and (c) plan education programs for all students (Moran, Kornhaber & Gardner, 2006; Passmore, 2006). The MI theory is not a new term or concept. It expands on what teachers have been or are doing in the classroom (Pociask, A. & Settles, J., 2007). The MI approach requires the teacher to create rich experiences in which students with different intelligence profiles can

interact with the materials and ideas using their particular combinations of strengths and weaknesses (Moran, Kornhaber & Gardner, 2006). Designing a curriculum with the use of multiple intelligences to complement these factors enhances the ability of the teacher to maintain student motivation and engagement in the learning process.

Research has shown that incorporating multiple intelligences in classroom instruction increases student motivation and engagement, and lead to an overall increase in academic achievement. In a study done by a Maryland elementary school, the introduction of the MI theory improved children's performances on state tests and created a school wide culture of achievement (Greenhawk, 1997). In a New York classroom, teacher S. Sweet also supports the use of multiple intelligences. Sweet (1998, p. 50) states, "Allowing students to use their knowledge of how they learn best can increase their enthusiasm, raise their achievement levels and foster growth in other intelligences." Students who understand how their brain and body operates are better able to support and foster their own learning.

The implementation of MI in classroom instruction needs to be carefully designed though. Incorporating the MI theory into lessons can seem overwhelming because of district curriculum and state testing requirements (Perini, Silver, and Strong, 2000). Some teachers are uncomfortable incorporating different learning style practices because of the perceived time restrictions and the perceived difficulty with using multiple activities with one lesson (Pociask, A. & Settles, J., 2007). Problems also arise in schools that do not have the resources available to teach to all levels. Another concern is presenting students with the concept of learning a particular way. According to Professor A. Pollard "oversimplifying can be dangerous. If people believe they have a particular learning style and that they're not capable of gaining from different sorts of learning, then they're diminished" (as cited in Bloom, 2007, para 4). It is important to accentuate students' strengths through advanced opportunities in order to develop their gifts, but it is equally important to bolster their weak areas through remediation so they can succeed in other areas. Boss expressed it adequately, stating, "It doesn't mean treating everyone the same, but providing everyone with a mix so they can all hit the ball out of the park" (Boss 2007, para 16). Integrating multiple intelligence practices assists teachers in differentiating instruction so that the greatest number of students' needs will be met.

After reading these articles, it is apparent to me that there are many factors that impact student motivation and academic achievement. The research is conclusive: students, who are motivated and therefore engaged in learning, do well in school. Research has also shown that (a) teaching strategies, (b) student backgrounds, and (c) parent involvement impact motivation and student achievement significantly. Educators are most successful when they adjust the content and the delivery of their instruction in order to maximize success for all students (Wright, 2006). Over the course of my study, I hope to implement and refine strategies that will help create a learning environment that fosters motivation and connects student learning across all settings resulting in academic achievement for all students.

Methodology

Participants

This study took place in a rural elementary school in Wisconsin with an enrollment of approximately 240 diverse students. The study included 13 students; five girls and eight boys.

All students received special education services: seven received services for learning disabilities, one for cognitive disabilities, four for emotional and behavioral disabilities, and one student was on an at-risk consult plan. Five of these students also received speech and language services two received occupational and/or physical therapy services, and one student was in the gifted and talented program. All 13 students received free or reduced breakfast/lunch, and six students received weekly food donations through the Backpack Buddies program. Backpack Buddies provides eligible families with a bag of nutritional snacks and meals for use over the weekend. Nine students were Caucasian, two were African-American, one was Hispanic and one was Native American.

Procedure

The main question of this action research project was what environmental and/or instructional factors motivate learners to effectively monitor and control their own learning resulting in positive outcomes. The focus was on (a) implementation of multiple intelligence strategies into lesson plans and (b) activities encouraging parent involvement in the education of their child.

Prior to the start of this study, parents of the participants received a letter that (a) explained the research, (b) promoted further questioning if needed, and (c) requested consent for their child's participation. Upon given consent, parents were asked to complete two surveys and one questionnaire (see Appendix A). The first survey addresses parents' feelings on the importance of a variety of different actions they can participate in to connect the school and home environment. The second survey addresses the frequency of parent participation in these actions, as well as what factors help or hinder participation. The questionnaire was designed to obtain information on their child's intelligences and learning styles. A baseline of parent involvement was developed from the information received via the surveys and communication between researcher and parents. Participants were given two assessments designed to identify their intelligences or individual pathways of learning (see Appendix B), as well as determine strengths and weaknesses. Multiple intelligence inventories are means to aid in understanding overall personality, learning preferences and strengths. These inventories are meant to be used as a diagnostic instrument so that classroom instruction can be designed to meet the strengths of all students. The two assessments were similar in format and measured the same outcomes. The first assessment was done with the teacher; the second assessment was done individually by each student. It was felt that using multiple assessments would produce more reliable results. A baseline of academic achievement was developed for each participant through use of prior academic grades and progress reports and communication with former classroom teachers. Classroom lesson plans were then designed incorporating activities based on students' intelligences. Activities presented were designed to both reinforce areas of strength and develop areas of weakness. Parent involvement for each participant was tracked through use of take-home folders and weekly at-home activities.

Research Design

At the start of this study all lesson plans were designed using multiple intelligence strategies and incorporated into all pullout classes (reading, math, and writing). Lessons were intended to be a larger project, planned for one week increments that offered (a) differentiation, (b) choices, and (c) self-directed learning opportunities. Data collection tools included (a) surveys, (b) teacher observations and reflections, (c) individual and group conferences, (d) parent involvement data

(take-home folders/activities), (e) exit cards, and (f) progress and grade reports. Surveys gathered information on the level and extent of parent involvement and multiple intelligences strengths and weaknesses.

Observations and teacher reflections recorded information regarding (a) on-task behaviors (b) student emotions, and (c) thoughts or feelings verbally expressed by students. Data was also kept on the amount of time planned for each lesson and the actual time it took to complete lessons. Individual and large group conferences were held to allow adequate interaction between students and researcher in order to gather input about presentation of lessons.

Parent involvement data included signatures as proof of completed at-home activities and use of take-home folders to record the amount of parent involvement for each participant. After each lesson, students recorded opinions on exit cards. They were asked to comment on (a) interest level, (b) difficulty of tasks, (c) likes and dislikes, and (d) whether they thought they retained information from the differing styles of presentation and various activities. Grades from progress reports and quarter marks from the previous semester were examined and compared to grades students earned throughout the study.

By the end of October 2007, researcher's observations and reflections showed a need for a decrease in lessons incorporating new teaching strategies. It was noted that students were feeling overwhelmed by the new, less structured activities. These particular students had consistently demonstrated a high need for solid structure and step-by-step instruction. Presenting lessons that required them to make (a) individual choices, (b) think critically, (c) process open-ended questions and (d) ultimately take a role in their own education and learning, proved to be too much of a challenge for most of the students. The study was scaled back to focus on pull-out reading classes which presented better resources offer additional one-on-one instruction and guidance with these strategies.

Results

The object of this study was to increase student motivation by means of incorporating multiple intelligences strategies into lessons and to increase parent involvement in order to improve student academic achievement and foster self-directed learning.

Parent Surveys

Prior to the start of my action research, I conducted multiple parent surveys. Two surveys assessed the level of parent involvement for each participant. These surveys focused on varying methods of parent participation in learning at home and in the school environment. The key focus was to obtain information on what strategies and activities were (a) important, (b) motivational, and (c) effective outside of the school environment.

Of the 13 parents who completed these surveys, six responded. All six who responded agreed that (a) providing routines, (b) consistency, (c) positive experiences and (d) talking to their child daily were the primary measures that should be taken at home to support learning. All of the respondents also agreed that (a) reading school newsletters, (b) attending parent-teacher

conferences, (c) reviewing homework, and (d) contacting teachers were central for supporting learning.

A third survey asked parents to provide input on their child's intelligences and how they felt their child learned best. The survey was given to the same 13 parents; six responded. Of these respondents, five indicated that their child benefits from (a) hands-on activities, (b) movement, and (c) group work, while one parent indicated that his or her child succeeds best through watching and listening.

Student Surveys

At the onset of this study, students were given multiple intelligence indicator survey to determine which sorts of learning would be most effective. Research has shown that student background and age can affect the development of multiple intelligences. Discovering an individual's learning strengths can aid in increasing academic achievement and strengthening the less used intelligences (Perini Silver, and Strong, 2000; Moran, Kornhaber & Gardner, 2006). The goal of this study was to motivate students by providing access to learning through students' dominate intelligence, and also to cultivate intelligence areas less often used. Of the 13 participants surveyed, seven indicated bodily-kinesthetic as their foremost intelligence, two identified with interpersonal intelligence, two with logical-mathematical, one with intrapersonal, and one indicated visual-spatial.

Teacher Observation and Reflections

During this study, weekly group observations were conducted related to (a) on-task behaviors, (b) participant comments associated to lessons or strategies used, and (c) time spend on individual lessons. Observations were recorded during (a) instruction sessions, (b) participant work time, and (c) assessment periods. Observations were scheduled 15 minute sections divided into three minute increments. Every three minutes, the group was given a plus or minus for on-task behaviors and positive or negative comments, for a total of 5 marks each session. Comments made by participants were noted for later reflection. Each observation period was then rated as positive or negative based on the comparison of pluses to minuses. For example, during one observation students received three minus marks and two plus marks, therefore the results of this observation would be negative. After rating each observation session during the week, all observations were then compared for an overall result. For example, during week one six observations were completed. Four of the six observations received a negative result, therefore, week one was viewed to be overall negative or unsuccessful. Observations were completed during each of the 10 weeks of this study. Weeks one, two, four, and six resulted in negative outcomes and were therefore viewed as unsuccessful. Weeks three, five, seven, eight, nine and ten resulted in positive outcomes. These results show a favorable reaction (60%) towards the teaching strategies and lessons used during the ten weeks of this study. The fact that the last four weeks of the study were consistently positive further illustrates the promising impact of this specific teaching approach.

Conferences

Twice a month individual or group conferences were held with the participants. Guiding questions were presented to help keep discussion flowing, but conferences were participant-led, open conversations in which they could express concerns or thoughts about (a) instruction, (b)

activities, (c) assignments, or (d) other classroom related issues. During these times, remarks on areas that pertained solely to the study were recorded.

Much of the feedback noted from participants (personal communication, 2007) included statements such as:

- “I need more direction. It’s hard for me to follow what I am supposed to do.”
- “I really like all the choices we are getting. It is a lot more fun than my other classes. I think I do better when we get to pick what we want and work in groups.”
- “I don’t get it. Why can’t you just tell us what we are supposed to do?”
- “It takes too long to do all this stuff. Why are we doing it like this and not like our other classes?”
- “I really like doing Reader’s Theater for reading class. I like pretending to be someone when I’m reading instead of just reading out loud.”
- “It seems like we are repeating a lot of stuff but in different ways. I know it help me remember better so I like doing it.”
- “I love that we can be up and doing things. It is so boring to just listen to a teacher talk and then do homework. Most of the time I tune them out anyway.”

Parent Involvement Figures

Once a week parents were asked to complete an activity or assignment with their child at home. A parent signature, typically followed by teacher-student conversation regarding the activity or assignment, was required as proof the activity was done together. Also parents were asked to read through and sign daily take-home folders which included school-related information and homework. Of 13 participants, eight had parent involvement on weekly activities or assignments more than 80% of the time, four had parent involvement at least 50% of the time, and one participant had parent involvement 0% during the study. Of the 13 participants, six had signed take-home folders 95% of the time, six had signed 50% of the time and one did not have take-home folders signed at any time during the 10 week study.

Exit Cards

During this study students were given exit cards upon the conclusion of a session or unit utilizing multiple intelligence strategies. The cards monitored (a) interest level, (b) perceived difficulty of activities, (c) likes and dislikes, and (d) whether students felt they learned or retained information better from the presentation format. During the 10 week study, students completed 14 different exit cards on (a) assignments, (b) activities, (c) projects, and (d) assessments. Interest level was rated as (a) low, (b) medium, or (c) high.

Of 182 responses, 33 rated interest level as low, 62 rated interest level as medium, and 87 rated interest level as high. Difficulty level was ranked as (a) easy, (b) medium, or (c) hard. Of 182 responses, 19 (10.4%) ranked difficulty level as easy, 64 (35.2%) ranked difficulty as medium, and 99 (55.4%) ranked difficulty level as hard.

Existing Records/Grade Reports

A baseline of academic achievement was developed for each participant using (a) quarter reports, (b) semester grades, and (c) teacher communication. Third and fourth quarter grades for each participant were averaged to calculate a semester grade for the 06-07 school year. Comments

from teacher communication were noted and used for reflection regarding effort and achievement. Midway through and upon the completion of the study, academic achievement was assessed for each participant using the same criteria. First and second quarter grades for each participant were averaged to calculate a semester grade for the 07-08 school year. The assessments were then compared for academic growth and achievement. Figure I shows 8 of the 13 participants made academic growth over the 10 week span.

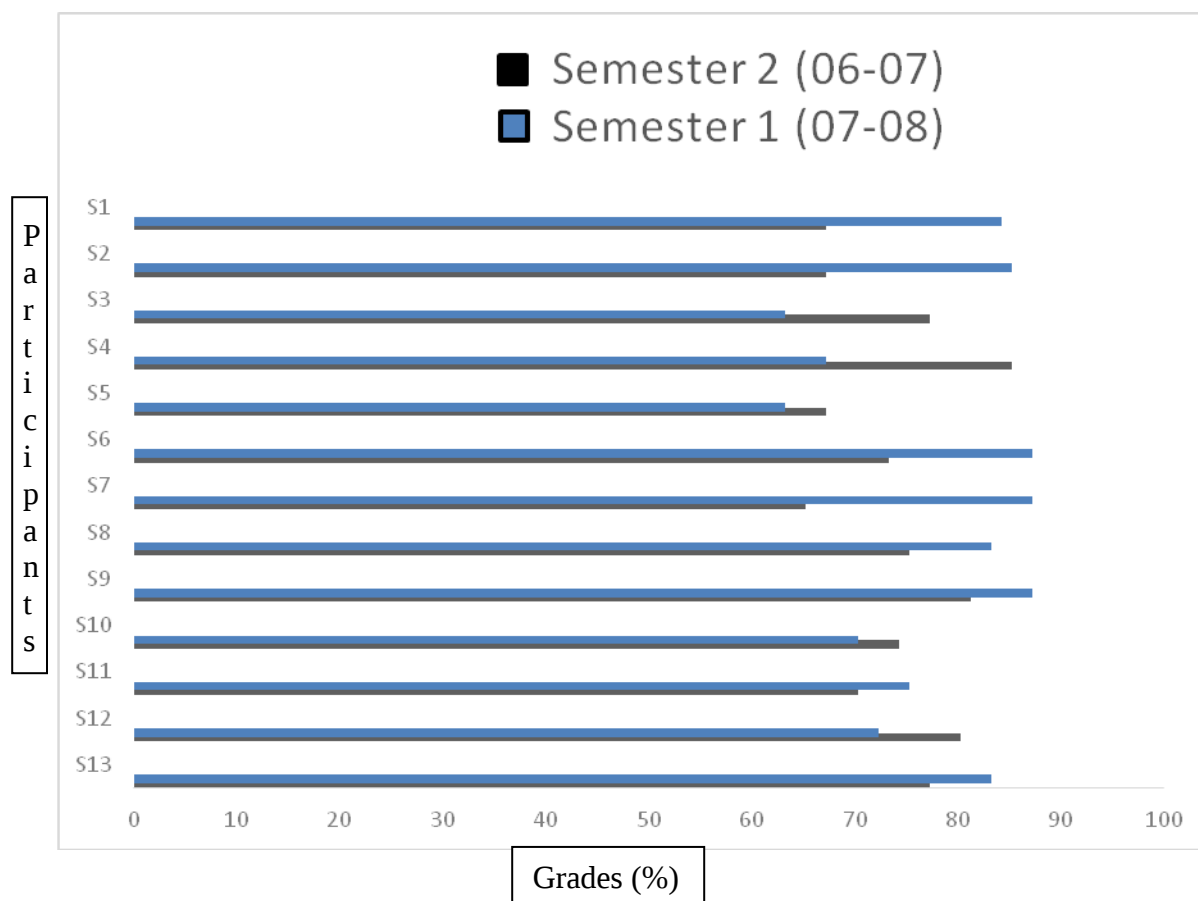


Figure I. Participant Academic Progress Discussion

After analyzing the results from this study it's clear that parent involvement and the use of multiple intelligences strategies can have a positive effect on motivation and academic achievement. Although midway through the ten week study, teacher observations and student comments suggested a need to reduce the implementation of new strategies, at the end of this study students were noticeably more motivated towards learning. In my experience, students with disabilities often function more successfully in an environment that offers rigorous (a) structure, (b) consistency, and (c) routine. Even though participants had been successful with the tasks presented using multiple intelligences strategies, they felt as though the school day was a blur and learning was something they were chasing after rather than pursuing at their own pace. Rather than continuing to implement multiple teaching strategies into all lessons, pullout reading

classes became the focus of the study. This offered a slower paced environment and allowed more one-on-one instruction when needed. After analyzing the results from this study, it is clear that parent involvement and the use of multiple intelligences strategies can have a positive effect on motivation and achievement.

At the end of this study students were noticeably more motivated towards learning. Participants whose parents were involved in their education during this study, by means of the designated activities, completed more homework and expressed less concern for assigned work compared to those who did not have a high level of support at home. It is my deduction that students with additional home support feel less academic pressure and could therefore focus more on learning, knowing they had resources to support them both at school and home. Most students showed more enthusiasm toward their learning and were willing to take more risks when it came to (a) assignment, (b) group work, (c) projects, and (d) assessments. This was evident by comments made on exit cards and during conferences. The results of exit card responses confirms that during the 10 week study, teacher instruction and student learning was at the desired and effective level: instructional or independent, offering students a challenge with room to grow. Likes and dislikes, as well as whether information was retained better, were recorded through use of personal statements. These statements were analyzed and used to make necessary changes to (a) instruction, (b) activities, (c) assignments, and (d) assessments. Comments from group conferences supported the need for a high level of (a) teacher-student interaction, (b) direction and (c) support, but also indicated the strategies were promoting motivation and academic success. At the end of each month (a) reflections, (b) identified themes, and (c) necessary changes related to the study were reviewed and addressed.

It was also noted students seemed to retain and recall information more successfully when materials were presented using a variety of multiple intelligences strategies; which proved true through (a) assignments, (b) student work time, (c) projects and (d) assessments. Students also appeared to be more focused and on-task during lessons in which these strategies were incorporated.

Incorporating multiple intelligences strategies in classroom lessons has given these students more confidence and the ability to use strengths to generalize skills across settings, which is an essential goal for students with disabilities. For example, one 5th grade participant; coming from a dysfunctional home setting, reading at a beginning kindergarten level, and highly unmotivated due to lack of success over almost the entirety of her elementary years; greatly benefited from the performance tasks that focused on intelligences other than those geared for reading or writing. This participant's academic success flourished when working with the visual-spatial and bodily-kinesthetic intelligences. Based on the results of this study, it is highly recommended that supporting parent involvement and incorporating multiple intelligences strategies into lessons be a principal priority of all teachers.

Limitations

This study was conducted in a cross-categorical special education classroom. The variety of differing abilities and disabilities is far greater than those of a single category special education or regular education classroom. Student needs often interfered with (a) planned lessons, (b)

activities, and (c) schedules. Many participants also received additional related services such as (a) Speech & Language, (b) Occupational or Physical Therapy, and (c) Guidance. Participants were frequently pulled out of class to receive such services. A great deal of teacher interaction and support was needed and utilized during this study which may have facilitated the positive results. Regular education or other classrooms may not have the same access to additional staff assistance such as teacher aides and program resources. In addition, this study focused on a small number of participants. Results may vary with a larger group or within a regular education setting. However, even with these limitations, this study confirms the effectiveness of parent support and multiple intelligences strategies.

Conclusion and Implications

Environmental and instructional factors significantly impacted student motivation and academic achievement during this study. Teachers have a responsibility to their students to provide instruction and lessons that offer access to education for all learning types. Integrating multiple intelligences strategies is one method that has proven effective in classroom instruction. In my opinion, these strategies not only provide learning pathways for all students, they also foster the development of well-rounded critically thinking students. Participants have gained confidence and knowledge of themselves and what they can accomplish. They have set realistic goals for their future and are working hard to achieve them. This study has also shown that developing and supporting parent involvement in learning can lead to increased student motivation and positive academic achievement. Participants had less anxiety and were more likely to complete homework successfully when they knew their parent(s) were actively supporting them at home.

Although I previously integrated a variety of different teaching strategies into classroom instruction, this study has lead me to believe multiple intelligences strategies are an efficient method of providing valuable access to learning for all students. The results of this study have led me to re-structure how I design lessons, activities and assessments. Furthermore, I have found that teaching students how they learn best has opened the door to earning and bolstered confidence and self-esteem for many of my students.

Action Plan

I plan to continue use of multiple intelligences strategies in my teaching as well as develop and support parent involvement. Depending on my student caseload, the time frame and extent of incorporation of these strategies will vary so as to bypass the similar difficulties that developed in this study. For example, for students who are working significantly below grade level and are more productive with structured lessons and activities, I may elect to focus solely on strategies to enhance dominate intelligence rather than trying to expand on less developed or all intelligences. I have already begun to create a monthly newsletter designed to inform parents on research, strategies and activities they can integrate in the home. I would also like to collaborate or team-teach with a regular education teacher utilizing these strategies. I have seen first-hand the positive effects of this study and feel this would be an excellent way to integrate students with disabilities into the regular education (inclusion) classroom more effectively as well as increase motivation and academic achievement in a greater number of students.

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APPENDIX A

Parent Surveys

Which of the following do you feel are the most important things parents can do at home to help their children do better in school? (Please mark all that apply).

- ☐ Manage your child's TV time
- ☐ Teach your child to listen and follow directions
- ☐ Show your child respect and expect him/her to respect others
- ☐ Talk with your child about his/her homework
- ☐ Provide daily routines for your child
- ☐ Help your child develop homework routines
- ☐ Provide a variety of experiences for your child
- ☐ Teach your child actions and consequences
- ☐ Try to eat one meal a day with the entire family
- ☐ Give your child practice exercising responsibility
- ☐ Talk and listen to your child's problems, concerns, etc. daily
- ☐ Employ firm, fair and consistent discipline at home
- ☐ Set a good example by being honest, respectful and tolerant of others
- ☐ Read to or with your child daily

Other:

How do you support your child's learning? (Check all that apply)

- ☐ Read newsletters from school
- ☐ Talk to my child's teacher at least monthly
- ☐ Visit my child's school during school hours
- ☐ Visit my child's school during parent events (parent-teacher conferences, open house, etc.)
- ☐ Review my child's homework regularly
- ☐ Volunteer for school activities
- ☐ Teach at home
- ☐ Participate in parent groups (PTA, committees, parenting classes, etc.)

Other:

Parent Survey

Please tell us if you do the following:

	Always	Sometimes	Never
Attend Open Houses or parent-teacher conferences			
Volunteer for School activities			
Chaperone or accompany students on field trips			
Participate in Parent-Teacher-Student Organizations			
Attend student programs or performances			
Visit your child's classroom during the school day			
Contact your child's teacher about school work			
Limit the amount of time your child watches TV, plays video games, or surfs the internet			
Read with your child at home			
Make sure your child does his/her homework			
Help your child with homework when needed			

Please mark if each of the following is true or false:

	True	False
Lack of transportation reduces my involvement		
Family health problem reduces my involvement		
Lack of available care for my children or other family members reduces my involvement		
My work schedule makes it hard for me to be involved		
The school does not encourage my involvement		
Information on how to be involved either comes too late or not at all		
I don't feel like it is appreciated when I try to be involved		

Please rate your school on the following:

	Excellent	Good	Fair	Poor
The school's overall friendliness				
The school's effort to encourage communication between parents and teachers in a variety of ways				
The school's interest in parents' ideas and opinions				
The school's efforts to get important information from parents				
The school's efforts to give important information to parents				

Parent Questionnaire for MI Assessment

Dear Parent(s)/Guardian(s)

I am in the process of assessing your child's natural talents and strengths in the multiple intelligences areas. Please complete the following questionnaire and return it to me. Your input is highly valuable to this process.

Student Name _____ Date: _____

1. What do you feel is your child's favorite subject in school?
2. What are your child's hobbies and interests outside of school?
3. Check all the things your child is good at:

Reading_____ Writing _____ Speaking in front of others_____

Art_____ Music_____ Movement_____

Working Alone_____ Working w/ others/team_____

Building activities_____
4. What is your child's favorite way to learn about things?
5. What skill, activity or subject would you like to see your child improve most in?
6. What improvements or changes could be made to make learning more interesting and meaningful to your child?
7. What careers do you feel may interest your child in the future?

Multiple Intelligences Test – based on Howard Gardner's MI Model

http://www.businessballs.com/freepdfmaterials/free_multiple_intelligences_test_young_people.pdf

Errata

JAASEP: Winter 2011, pp. 93-119

An Investigative Study on the Learning Difficulties in Mathematics Encountered by Primary 4 Children: In Search of a Cognitive Equation for Mathematics Learning

by Noel Kok Hwee Chia & Chiew Peng Kho

On page 99, under sub-heading **Subjects**, the following correct statement should be read as such,

40 subjects, regardless of their genders, were randomly selected from 114 Primary 4 children who responded to advertisement slips inserted in two newspapers to participate in the study.

Author Guidelines for Submission to JAASEP

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Authors will be notified of the receipt of their manuscripts within 14 business days of their arrival and can expect to receive the results of the review process within 30 days.

All submissions must have a cover letter indicating that the manuscript has not been published, or is not being considered for publication anywhere else, in whole or in substantial part. On the cover letter be sure to include your name, your address, your email address, and your phone number

As much as possible, typescript should conform to the following:

- Method of Manuscript Submission: Send Manuscripts should be submitted electronically with the words "Submission" in the subject line.
- Language: English
- Document: Microsoft Word
- Font: Times New Roman or Arial
- Size of Font: 12 Point
- Page Limit: None
- Margins: 1" on all sides
- Title of paper: Top of page Capitals, bold, centered,
- Author(s) Name: Centered under title of paper
- Format: Feature Manuscripts should follow the guidelines of fifth edition of the Publication Manual of the American Psychological Association (APA).
- Figures and Tables: All should be integrated in the typescript.
- Abstract: An abstract of not more than 150 words should accompany each submission.
- References: Insert all references cited in the paper submitted on a Reference Page

Submission of Articles: Submissions should be forwarded by electronic mail to the Editor, Dr. George Giuliani at editor@aasep.org

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