JAASEP

JOURNAL OF THE AMERICAN ACADEMY *of* SPECIAL EDUCATION PROFESSIONALS

WINTER 2016

ISSN 2325-7466 (Online)

American Academy of Special Education Professionals
AASEP

Winter, 2016
Volume 8, Issue 1

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The Effects of Special Education Training on Educator Efficacy in Classroom Management and Inclusive Strategy Use for Students with Autism in Inclusion Classes

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Abstract

The rise in the number of students with an autism spectrum disorder (ASD) diagnosis combined with the educational trend toward inclusion for students with disabilities has led to an unprecedented number of these students placed in general education classrooms. General educators require appropriate training if these children are to be successful. The problem addressed in the article was that general education teachers have not had sufficient special education training to deal with students with autism. The purpose of the survey was to determine if there was a relationship between special education teacher training and teacher efficacy for both classroom management and inclusion instructional strategies for general educators in a north central Texas school district who work in inclusion classrooms containing students with autism. Study participants included primary and secondary general education teachers in a north central Texas school district who had at least one student with autism in the classroom. Students with autism are participating in inclusive classes at a higher rate than ever before, a situation, which creates new teacher challenges (Kalkbrenner, Braun, Durkin, Maenner, Cunniff, Lee, Pettygrove, Nicholas, & Daniels, 2012). Teachers trained to improve their inclusive teaching efficacy are more likely to use best practices, leading to optimal learner outcomes (Malinen, Savoleinen, & Xu, 2012). Researchers need to identify the best type of teacher training to facilitate inclusion success (Brown & McIntosh, 2012).

General education teachers typically do not have adequate special education training to effectively manage the academic and behavioral challenges demonstrated by students with an autism spectrum disorder within the classroom (Killoran et al., 2013, Breitenback, Armstrong, & Bryson, 2013). This lack of training has led to poor teacher efficacy with regards to inclusion strategy implementation and classroom management, which can cause lifelong academic and social failures for these students (Brown & McIntosh, 2012). The purpose of this study was to determine if there was a relationship between the amount of special education training obtained by general educators and their efficacy levels for classroom management and inclusive instructional strategy use with their included students with autism.

This study was done to answer two research questions focused on the training levels of general education teachers with students with autism in their classrooms and how training differenced related to efficacy in classroom management and instructional strategy use.

RQ1. What is the strength and magnitude of the relationship between efficacy of classroom management and inclusive instructional strategy use as measured by the Teacher Efficacy for Inclusive Practice Scale (TEIP)?

RQ2. Is there a main effect of special education training level on classroom management efficacy and inclusive strategy use as measured by the TEIP?

Research Methods and Design

Participants were certified general educators of both genders who were employed full-time and had at least one student with autism in their classrooms. These participants were highly qualified in their subject areas according to district standards, and ranged in age from 25 to over 46 years. The convenience sample consisted of 95 teachers from a north central Texas School district who responded within two days to the email invitation.

Sample Size

An a priori G*Power (v3.2.1) analysis was conducted to determine the minimum sample size necessary. For a multivariate analysis of variance (MANOVA) with four groups and two response variables with alpha = .05, .80 power, and an effect size of .25, it was determined that n = 42 participants would be needed. Traditionally, email surveys had a lower overall response rate than interviews, typically 30-40% (Cozby & Bates, 2012). The original plan to increase responses with a second and third reminder was not used as the required number of participants was 42, and 95 teachers participated within the first two days. Participants who responded to the invitation email were provided with an informed consent form containing an email with a unique link to prevent participants from taking the survey multiple times. After the first two days of responses, the survey was shut down due to sufficient numbers of participant responses to the survey.

Materials and Instruments

Teacher Efficacy for Inclusive Practice Scale. The questions for the survey were based on the Teacher Efficacy for Inclusive Practice (TEIP). The TEIP was developed in 2011 to evaluate the efficacy of teachers in inclusive classrooms. The TEIP is an 18-item scale with a total-score ranging from 18-108, with a Cronbach's alpha of .85. It has been found to be both valid and reliable (Ashan, Sharma, & Deppeler, 2012). Higher scores indicate better perceived aptitudes in the selected areas. One of the subscales on the TEIP measures efficacy to use inclusive instructions, which is related to the dependent variable examined in research question 1. Another subscale measures efficacy in managing behavior, which is related to the dependent variable in research question 2. The reliability for efficacy to use inclusive instructions was .93, and for efficacy in managing behavior was .85, while the Cronbach's alpha for the TEIP was .85 (Ashan, Sharma, & Deppeler, 2012).

Operational Definition of Variables

Several variables had been identified for the dissertation, including demographics and efficacy levels. Specifically, special education training was the independent variable and efficacy in classroom management and inclusion instructional strategies the dependent variables. Both of the dependent variables were measured on a 6-point Likert-type scale.

Special education training. Special education training was reported on an ordinal scale within the demographics section. The four possible responses included very low (less than 10 hours of in-service training), low (greater than 10 hours of in-service training), medium (participation in a university course in special education) or high (special education teacher certification). A response option of no special education training was not included because teachers employed by the north central Texas school district must have some in-service hours in special education prior to obtaining employment. The scores were coded: 1 (very low), 2 (low), 3 (medium), and 4 (high).

Efficacy in classroom management. Efficacy in classroom management was the first dependent variable, which was measured by the Teacher Efficacy for Inclusive Practice (TEIP) scale (Loreman, Forlin, & Sharma, 2012; Ashan, Sharma, & Deppeler, 2012; Sharma, Loreman, & Forlin, 2012). Scores for this subscale were averaged. Questions 1,2,7,8, 11, and 17 of the TEIP provided data on classroom management efficacy.

Efficacy in inclusive instruction. Efficacy in inclusive instruction was the second dependent variable, which was measured in an ordinal fashion through the TEIP. Questions 3, 4, 5, 6, 9, 10, 1, 13, 14, 15, 16, and 18 provided information on inclusive instructional strategy use. Scores for this subscale were averaged.

Data Analysis

Data from the survey (demographic data and TEIP) were downloaded as an Excel spreadsheet and transferred directly into SPSS v22.0 for statistical analysis. Frequencies were run in order to check for (a) missing data, (b) potential errors, and (c) outliers. The Teacher's Efficacy for Inclusive Practices survey yielded scores of 1-6 for each item and did not require recoding. If there were errors or incomplete responses, they were treated as incomplete data. At that time, possible-code cleaning was done to visually check to ensure all codes were possible. A visual scan was also completed to clean the data and ensure all questions had responses. The incomplete data from the one respondent who did not complete the survey was discarded as it only contained demographics.

Demographic information to be collected was limited. Data included (a) gender, (b) years of teaching experience, and (c) hours of special education training. A MANOVA was performed. A post hoc power analysis was conducted through Tukey's pairwise comparisons to evaluate the actual power of the statistical tests conducted for the proposed study. The powers of the statistical tests performed yielded the significance tests' ability to detect the alternative hypothesis (Steinberg, 2011). Before running the primary analysis, MANOVA assumptions were checked for violations.

Research Question One. What is the direction and magnitude of the relationship, if any, between efficacy of classroom management and inclusive instructional strategy use as measured by the TEIP?

First, correlations between the dependent variables were identified in order to answer RQ1 by calculating Pearson's *r*. These correlations were run to determine if a significant relationship existed between classroom management efficacy and use of inclusive instructional strategies. In addition, the correlations were used to justify the use of MANOVA to answer Research Question Two.

Research Question Two. Is there an effect of amount of special education training on efficacy levels in the areas of classroom management and inclusive strategy use as measured by the TEIP?

A MANOVA was used to analyze the data for Research Question Two provide an answer to this research question. The independent variable for the current study was special education training, and the dependent variables were classroom management efficacy and proficiency with inclusion instructional strategies. Tukey's pairwise comparisons were run as a post hoc procedure to evaluate the significance of the main effects. All tests used $\alpha = .05$ to determine significance.

Results

Research question one, "What is the strength and magnitude of the relationship between efficacy of classroom management and inclusive instructional strategy use as measured by the Teacher Efficacy of Inclusive Practice Survey (TEIP)?" A Pearson correlation coefficient between classroom management and inclusive instruction strategies was found to be positive ($r = .69$) and significant ($p < .001$), indicating that teachers with good efficacy in classroom management also had high levels of inclusion strategy use. In addition, teachers who used appropriate inclusion strategies also demonstrated good classroom management skills.

Research question two, "Is there a main effect of special education training level on classroom management efficacy and inclusive strategy use as measured by the TEIP?", a MANOVA was performed to determine the effect of the independent variable of special education training on the dependent variables of efficacy in classroom management and inclusion strategy use. The result of the multivariate test was not significant.

The range of mean scores indicated a significant difference between groups with different special education training levels, as shown in Table 1. The range in the area of classroom management efficacy (4.99 – 5.23) was largest, indicating that training levels had a strong impact on the teacher's ability to control their classrooms. Table 2 demonstrates that he range of mean scores for inclusion practices (5.17 - 5.22) was not as wide as those for classroom management, indicating a weaker impact.

Table 1
Descriptive Statistics

	Classroom Management	Inclusion Practices
N – Valid	94	94
N - Missing	1	1
Mean	5.09	5.21
Std. Deviation	.53	.41
Skewness	-.83	-.01
Kurtosis	2.33	-.62

Levels of training were varied within the group, as shown in Table 2. Of the participants with in-service training only, 20 had 10 hours or fewer, and 42 had more than 10 hours of in-service training. Table 2 also demonstrated there were 13 participants with at least one university course, and 19 held a special education certification from the Texas Education Agency.

Table 2
Between-Subjects Factors (Training Levels)

Row	Value Label	N
1	Less than 10 in-service hours	20
2	Greater Than 10 in-service hours	42
3	One university course	13
4	Special education certification	19

The profile plot from the MANOVA, however, indicated that training levels influenced both classroom management efficacy and inclusion strategy use. These results can be seen in Figures 1 and 2. Educators with less than 10 hours of in-service training had the lowest efficacy levels, and levels increased with more than 10 hours of training. Teachers with one university course had the highest levels, while those educators with special education training had a significant drop in efficacy levels. While the drop in efficacy with special education certification was unexpected, the fact that it was seen in both independent variables was not surprising, given the strong positive relationship between them.

TEIP scores were high overall for both classroom management efficacy ($M = 5.09$, $SD = .53$) and inclusion practices ($M = 5.21$, $SD = .41$). Four different levels of training were identified within the group (Table 3). Scores on the TEIP varied with special education training level (Table 3), from fewer than 10 in-service hours ($M = 4.99$, $SD = .52$) to more than 10 in-service hours ($M = 5.06$, $SD = .57$), one university course ($M = 5.23$, $SD = .51$), and special education certification ($M = 5.18$, $SD = .47$).

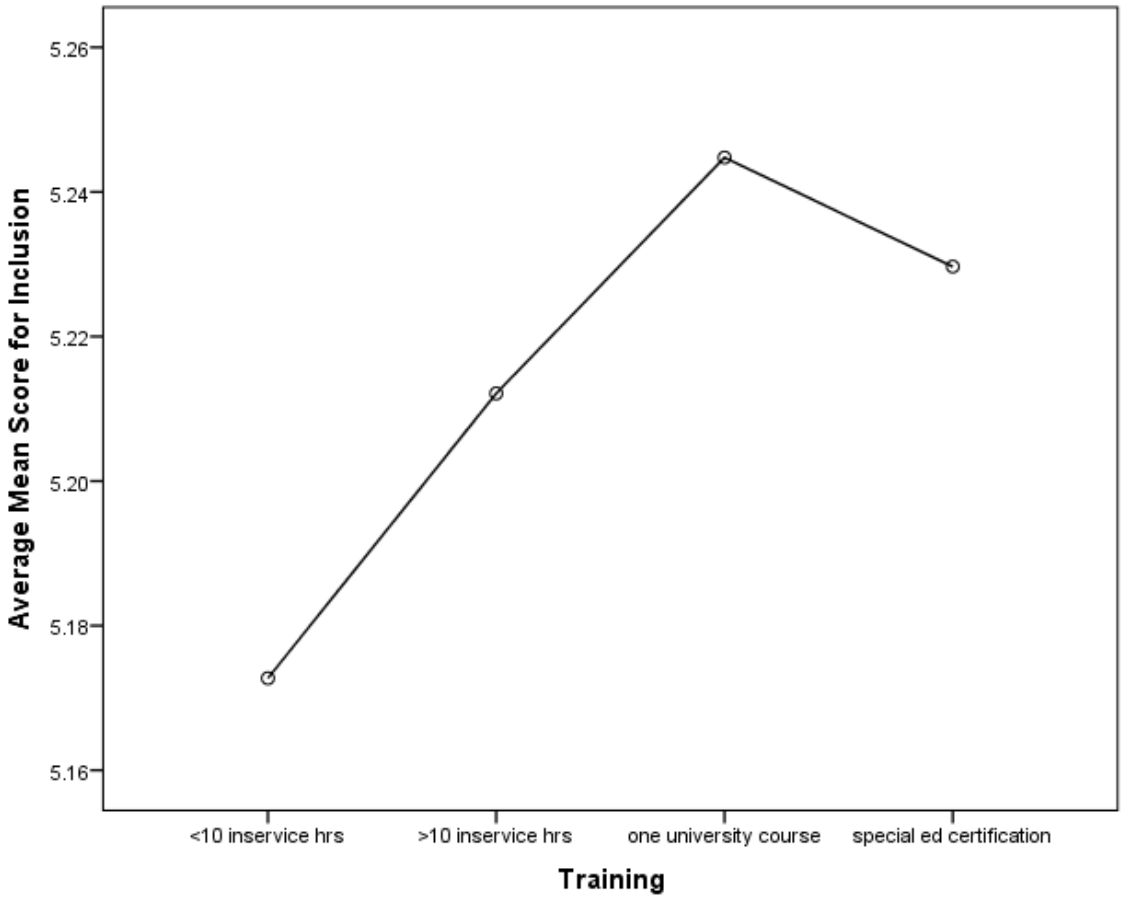

Figure 1. Efficacy in Classroom Management by Training Levels. Points represent mean participant scores for each training level.

Table 3
Descriptive Statistics

	Training	Mean	Standard Deviation	N
Classroom Management	<10 in-service hours	4.99	.52	20
	>10 in-service hours	5.06	.57	42
	one university course	5.23	.51	13
	special education certification	5.17	.47	19
	Total	5.10	.53	94
Inclusion Practices	<10 in-service hours	5.17	.44	20
	>10 in-service hours	5.21	.42	13
	one university course	5.24	.30	19
	special education certification	5.23	.43	19
	Total	5.21	.41	94

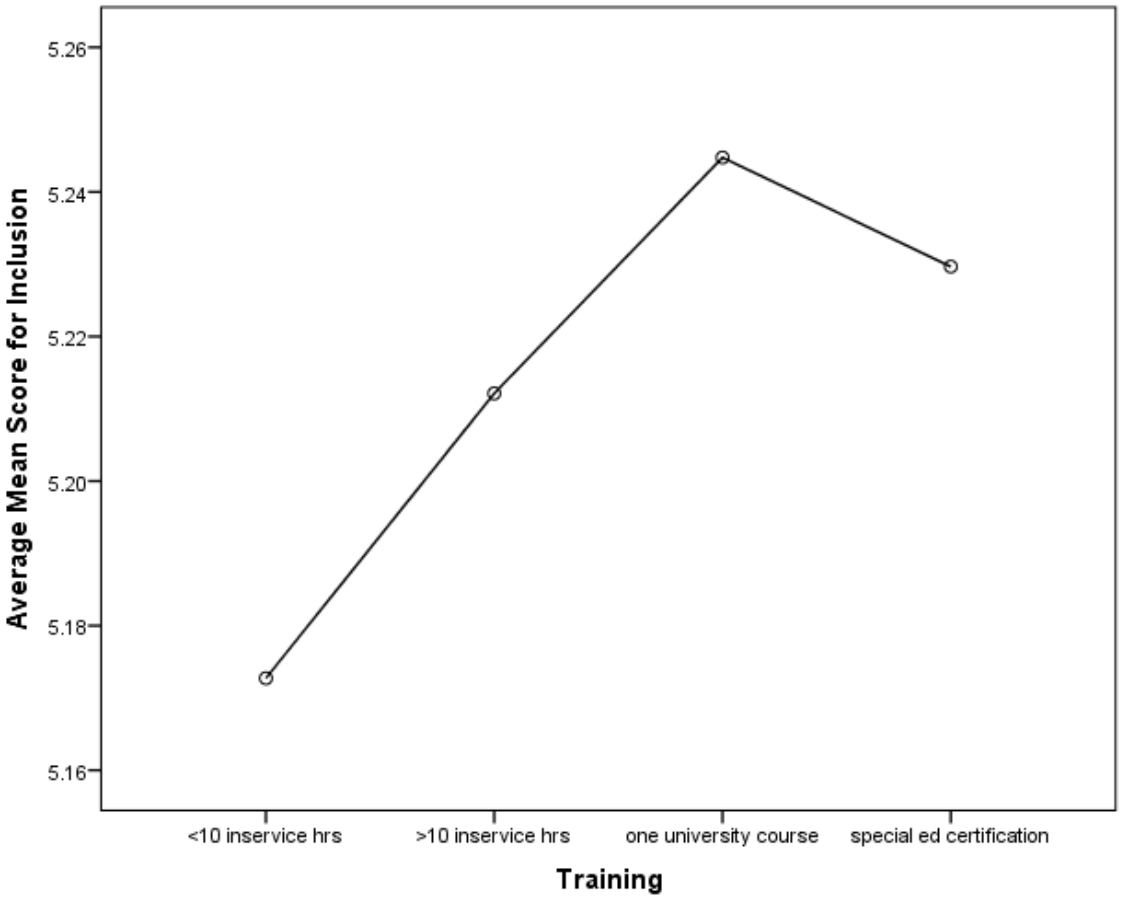

Figure 2. Efficacy in Inclusion Strategy Use by Training Levels. Points represent mean participant scores for inclusion strategy use.

Discussion

Many general education teachers feel inadequate to meet the challenges of inclusion for students with disabilities, especially when the learners have been diagnosed with an autism spectrum disorder (Savolainen, Engelbrecht, Nel, & Malinen, 2012). Study findings yielded data consistent with previous research concerning the relationship between educator efficacy in classroom management and inclusion strategy use. Some data with regard to the correlation between training and the dependent variables were also consistent with previous information. Unexpected results related to the relationship between special education certification and efficacy for both dependent variables.

A surprising result was the drop in efficacy between teachers with one university course and those with a special education certification. This regression in efficacy may be due to a variety of factors experienced by teachers with the additional special education certification. These factors have been documented in the literature and (Sokal & Sharma, 2013).

The second variable in the second research question was inclusion strategy use. Again, those with fewer than 10 hours of in-service training had a lower level of efficacy than their colleagues

who had participated in more than 10 in-service hours. Educators with a minimum of one university course also demonstrated the highest level of efficacy for inclusion strategy use. A similar reported drop in efficacy for those with the special education certification was also demonstrated. Because classroom management efficacy and inclusion strategy use had such a high correlation, the similar results could be anticipated. A number of possible explanations for the efficacy drop among educators with special education certification were revealed in the literature, including (a) an elevated workload, (b) differing attitudes about inclusion, (c) increased chance for burnout, (d) fewer resources, and (e) increased classroom scrutiny. These demands result in an increased workload, leading to additional stress and lowered overall efficacy (Lee, Patterson, &Vega, 2011). These feelings of being overwhelmed also impact teacher attitudes towards inclusion (Gebbie, Ceglowski, Taylor, & Miels, 2012).

Limitations

There were a number of limitations to the current study. The participants who took the survey included teachers in a specific school district during a specific time frame. The data which were obtained may not be appropriate to generalize to other districts or other time periods. In addition, because a self-report was used, there was no way to validate the candor of the responses. Finally, correlation was not proof of causation, so additional variables, such as teacher gender or age, may have had an unexpected impact on data collected.

Delimitations

The survey was restricted to general education teachers of included students with autism. The population was further restricted to teachers in the employ of a single school district. A further restriction was that participants were limited to those who responded first to the email invitation, which was within the first 48 hours.

Recommendations

Study results indicated that general education teachers teaching students with autism in an inclusion classroom should be provided with at least one university course in special education. This training affords them the opportunity to demonstrate the highest levels of efficacy for both classroom management and inclusion strategy use. These educators will then be prepared to optimize outcomes for their students with a spectrum disorder.

Further research is needed to confirm the results of this study and to identify the exact reason for the drop in efficacy for teachers with a special education certification. Additional studies should be completed with a larger population, and over a wider geographical area. Demographics such as (a) teaching level (elementary or secondary), (b) teacher gender, (c) level of college education completed, and (d) years of experience should also be evaluated in terms of teacher efficacy for both classroom management and inclusion strategy use. Future studies should also focus on the educators' years of experience in an inclusive setting. Additional factors to be evaluated include how teachers feel about the school support system, and their perceived control within their classrooms.

Potential questions may include the following:

- Is there a relationship between general education teacher attitudes towards inclusion and special education certification?

- Do general education teachers with a special education certification perceive a heavier workload, and how does this impact their classroom efficacy?
- Are teachers with special education certification under additional scrutiny, and what is the impact of this on their efficacy?

Conclusions

Data from this study demonstrated a strong positive correlation between general education teacher classroom management efficacy and inclusion instructional strategy use for students with autism (Killoran et al., 2013). The teachers who demonstrated good classroom management skills tended to use inclusion best practices, and those educators who used inclusion instructional methods also had a high level of efficacy in classroom management.

Additional data demonstrated that teachers with fewer than 10 in-service hours do not report as much efficacy for either classroom management or inclusion strategy use as those with more than 10 in-service hours. Teachers who have had one university course in special education demonstrated the highest levels of efficacy. These levels are consistent for both classroom management and inclusion strategy use. These data indicated that additional special education training raised efficacy levels for both independent variables, however educators with the highest level of training, special education teacher certification, reported a significant drop in efficacy for both dependent variables.

This study reinforced findings of the existing literature that additional special education training is needed for general educators who teach students with autism (Syriopoulou-Delli, Cassimos, Tripsianis, & Polychronopoulou, 2012). In addition, it added to the existing information in that it identified a lowered level of efficacy for teachers who also hold a special education teaching certification. Further research is needed to determine the cause of the drop in efficacy for these teachers.

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About the Authors

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The Effectiveness of Using a Social Story Intervention to Improve Social Interaction Skills of Students with Autism

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Abstract

The aim of this study was to evaluate the effectiveness of using a social story intervention to improve social interaction skills in three students with autism aged between 7-8 years. A multiple-baseline-across participants design was used. To achieve the purpose of the study, the social stories were implemented. The intervention included reading the social story to the students, and answering questions based on what was read. The results of this study showed an increase in social interaction for all participants. The results suggest that the use of social story-only intervention without additional social skills interventions may be effective in increasing social interaction skills and the frequency of these skills.

The Effectiveness of Using a Social Story Intervention to Improve Social Interaction Skills of Students with Autism

Autism is a life-long developmental disability with neurological basis, it is characterized by a range of impairments in social functioning with social interaction difficulties in forming one of the main diagnostic criteria, alongside communication difficulties and lack of imagination (Nikopoulos & Keenan, 2007, Okada; Ohtake, &Yanagihara, 2010; Slahat, 2012).

Research into the experiences of children with social interaction difficulties has highlighted the increasing array of social situations faced as individuals aim for greater independence (Department of Health, 2009; Reynhout & Carter, 2010). The development of social interaction skills is a key indicator of student success in and out of the classroom (Klett & Turan, 2012; More, Sileo, Higgins, Tandy, & Tannock, 2013); a child's social skills impact their ability to relate to peers, make friends, and learn in a classroom setting. In fact, social competence has been identified as a foundation for school readiness and academic achievement as well as a better predictor of first-grade academic competence than family background or cognitive skills (Delano& Snell, 2006; Karkhaneh, Clark, Ospina, Smith, & Hartling, 2010, Ozdemir, 2008; Samuels & Stanfield, 2012). Difficulties with verbal and non-verbal communication, naming

skills, and language deficits may be considered significant barriers to social inclusion. Unfortunately, children with autism often experience difficulty in acquiring social skills and are likely to be less engaged with peers (Crozier & Tincan, 2007; Hutchins & Prelock, 2005).

Due to the importance of social skills for future success, it is important to identify evidence-based interventions that target the social skills of children with autism. There are a number of interventions available that promote learning and address the needs of children with autism. However, there is no specific intervention or method that has proved to be effective for all children with autism (Abdat, 2013).

Social stories are based on the premise that people with autism have difficulty to read and understanding social cues and situations. Social stories were first developed by Carol Gray in 1991, as a strategy for developing social understanding in children with autism by sharing information about a variety of concepts, interactions and situations in a meaningful and accurate way (Samuels & Stanfield, 2012, Scattone, 2008; Sonenksen, & Alper, 2006; Test, Richter, Kinght, & Sponner, 2011,). The aim of the stories is to explain confusing social situations through text and visual support. Social stories are tailored, briefed and written from the perceptive of the person who will benefit from them. Stories may describe what is involved and the sequence of events that need to occur to successfully navigate a social situation. They may describe the thoughts and feelings of others in the setting. In addition, they often offer suggestions concerning how to respond in the situation. Gray (2004) suggests that social stories can improve the ability of the person to see things from another's perspective and help integrate information into a meaningful from.

Social stories differ from direct social skills instruction by offering explanations to support the person's understanding and interpretation of what is expected within a specific environment. More et al (2013) note that while a social story may coach an individual to manage effectively in a specific situation, it will not necessarily generalize to other similar situations. This is an important consideration when evaluating the success of the intervention.

Social stories have a key set of features described in checklist by Gray (1995, 2004). She recommended that social stories contain two categories of sentences, those that describe and those that direct. Sentences that describe include descriptive (e.g. when the bell rings, it is time to go), perspective (e.g. sometimes people feel sad), affirmative (e.g. listening is a good thing to do), and cooperative (e.g. When get scared, people can help me) sentences. Sentences that direct include directive sentences (e.g. I may ask my teacher for help) and control (e.g. If I get scared, I can ask for help). Social stories have been shown to successfully improve social skills for children with autism (Chan, Reilly, Lang, Boutot, White, Pierce, & Baker, 2010; Cihak, Killdare, Smith, McMahon, & Quinn-Brown, 2012; Leaf, et al., 2012; Litras, Moore, & Anderson, 2010; Wang & Spillane, 2009).

In a review of research literature on social stories for students with autism. Researchers (e.g. Abdat, 2013; Al Jarhai, 2004; Chan, et al., 2010; Cihac et al., 2012; Fatiha, 2012; Leaf, 2012; Litras, etal., 2010; Mohammed & Hassen, 2013; Sansosti & Power-Smith, 2008) have demonstrated positive change in a wide range of social skills. A social story can reveal accurate social information in a clear and reassuring manner that is easily understood by children with

autism. The improved understanding of the events and expectations can lead to a change in the behavior (Ali & Fredericksonm, 2006). Some of social stories interventions have been implemented in the classroom setting (Adamz, Gouvousis, VanLue, & Waldron, 2004, Chan, et al., 2010; Chan, & O'Reilly, 2008), and others in home environment (Ivey, Heflin, and Alberto, 2004).

Several studies lacked demonstration of experimental control (Agosta, Graetz, Mastropieri, & Scruggs, 2004; Hanley, Bray, Kehle & Elinoff, 2010, Sahfalah Center, 2013). Adamz et al., (2004) did not describe the participants' selection criteria. Other studies did not assess generalization effects (Quilty, 2007). Other studies included interventions in addition to social stories (Cihak et al., 2012; Ganz, et al., 2012; Litras et al., 2010; Sansosit & Powell-Smith, 2008).

Although an increasing amount of literature suggests that social stories can be effective for students with autism to improve their social interaction skills, many lack rigorous methodological standards and use the social story intervention in conjunction with other treatments, making difficult to identify the source of the behavior change. Additional empirical social story research is essential to further develop this promising intervention in the field of autism (Ganz, et al., 2012; Litras et al., 2010).

The purpose of this study was to evaluate the effectiveness of using a social story intervention to improve social interaction of students with autism. This study adds to the literature by evaluating the use of social stories to improve social interaction in Arabic countries. The following research question for this study was addressed "Does social story intervention improve social interaction skills for students with autism?"

Method

Participants

The participants for this study were recruited through a special education center. Three male students diagnosed with autism (Ali, Mohammed, & Sultan) participated in this study. To confirm diagnosis, the participants were also assessed by the researcher using the Autistic Behavior Checklist, (ABC; Arabic version, Al Zarah, 2005). The ABC is a checklist focused on the social behavior of the child and provides a standard score. The special education teacher completed the ABC for the three students. All the students got a low score in the domain of social skills. Participation criteria included the following:

1. They had been diagnosed with autism and were being served in a special education classroom;
2. Written consent was obtained from the parents of the participants needed;
3. They were between age 7-8 years;
4. They did not receive interventions in the past;
5. They had deficit in social interaction skills.

(Ali). Ali was 7 years of age with autism. He lived with his parents. He attended a classroom for students with autism. Ali had been evaluated and diagnosed with autism at 4 years. His teacher reported that Ali mostly played alone with no favorite peers. He had difficulty initiating and

responding to conversation, playing with others, making eye contact, and interacting appropriately with others. Ali communicated mostly using simple sentences.

(Mohammed). Mohammed was 8 years of age with autism. He lived in a single–parent home with his mother. He had been diagnosed with autism at age 3 years. He could not speak in complete sentences. He displayed limited interactions with other children, he did not develop relationships with others. Mohammed also lacked eye contact and sometimes he followed set patterns of behavior in his interactions with others. He preferred to play alone and had difficulties initiating any social interaction.

(Sultan). Sultan was 8 years and 4 months of age with autism. He lived with his parents. His teacher reported that Sultan had difficulty initiating and interacting with peers, following directions, making eye contact, engaging in social interaction, and using gestures. He showed a lack of interest in toys. He preferred to play alone and did not seem notice peers in the classroom. He had also difficulties understanding facial expression.

Setting

The study was conducted at special education center located in Al Ain city in United Arab Emiratis. Classes were comprised of students with different disabilities (e.g., mental retardation, autism) and as well as by age groupings for students with sensory impairments Attention Deficits Hyperactivity Disorders. Although, the participants were in the same classroom. All intervention sessions and observations took place during free play in the play room because this was the time and settings for all participants were together.

Social stories

After the participants had been selected, teacher and parent interviews were conducted to identify possible behaviors for intervention. The researcher met with the teacher and explained the social story intervention and provided an example of a social story. Then, the teacher was asked to identify activities during the school day that were challenging to the teacher.
The teacher identified three target behaviors for each participant based on the following criteria:

1. These behaviors interfered with the development of peer relationships appropriate to developmental level;
2. Deficits in nonverbal behaviors such as eye contact, and facial expression interfered with social interaction;
3. The behaviors targeted in this study were also consistent with each child's individualized education program (IEP);
4. These behaviors interfered with learning;
5. These behaviors were not being addressed through another targeted intervention.

After the initial teacher interview, the researcher conducted two classroom observations for each participant to verify the target behaviors. Observations took place in the play room. Based on the information from the teacher's interview and student observation, two social stories were written for each student according to Gray's (2004) criteria and included descriptive, perspective, and directive sentences. The content of social stories typically tell what is going to happen in social

situations and attempt to describe why these situations happen. These stories also help the child to understand the multiple perspectives that can exist in a social situation (Gray, 2004). To ensure the social stories met the criteria described by Gray (2004), a two-step validation process was used. First, the stories were reviewed by two early childhood professors at UAE University to ascertain their compliance with Gray's Criteria and checked for social validity. Then, the stories were reviewed by two early childhood teaches and two special education teachers. Those teachers checked for age appropriateness and applicability to those participants.
The pages of each story were typed on white paper. The title was in 28-point and the story was in 16-point Times New Roman font. Pictures were taken from Stories for Children with Autism (Abdat, 2013).

Experimental design
A multiple baseline design across participants was used to assess the changes in social interaction for students with autism .This design required the intervention to be implemented in across participants so that each participant serves as control for another participant (Kazdin, 2010). If desired behavior change was evident when and only when the intervention was initiated and this was replicated across three participants, one can be reasonably confident this behavior change was a function of social story intervention.

Baseline
During the baseline, the participants engaged in the typical classroom routine. Observational data were recorded for each participant. No intervention occurred during the baseline period.

Target behavior
Before the class started, Ali was allowed to go to the play room to play games. The dependent variable for Ali was preparing to leave the play room in an appropriate way. An appropriate behavior was defined as (a) getting his bag, (b) moving away and (c) walking toward the line at the door. Inappropriate behavior was defined as wandering around the room than the direction of the door. The dependent variable for Mohammed and Sultan was behaving appropriately during circle time. An appropriate behavior was defined as (a) responding when asked by the teacher to respond, (b) playing with peer without hitting, (c) asking questions related to ongoing activities, and following directions. An inappropriate behavior was defined as (a) speaking without raising hands, (b) lying on the ground, and (c) not following directions.

Targeted behaviors were coded 10 seconds for Ali and every 15 seconds during 5-mintue intervals for Mohammed and Sultan. If the participants demonstrated every targeted behavior in an appropriate manner during the interval, correct responses were recorded with (+). If the participant demonstrated the targeted behavior in an inappropriate manner during the interval, responses were marked with (-). Each targeted behavior was graphed as a percentage of intervals during each session for each participant.

Reliability
Reliability was checked on 25% of the observations by another teacher, who was trained over the sessions. The researcher and the teachers coded the behaviors of all participants. Reliability was above 85%. Reliability was calculated by dividing the number of agreements by the number of

disagreements plus agreements. Inter-observer agreements for Ali was 90, for Mohammed it was 88, and 92% for Sultan.

Intervention

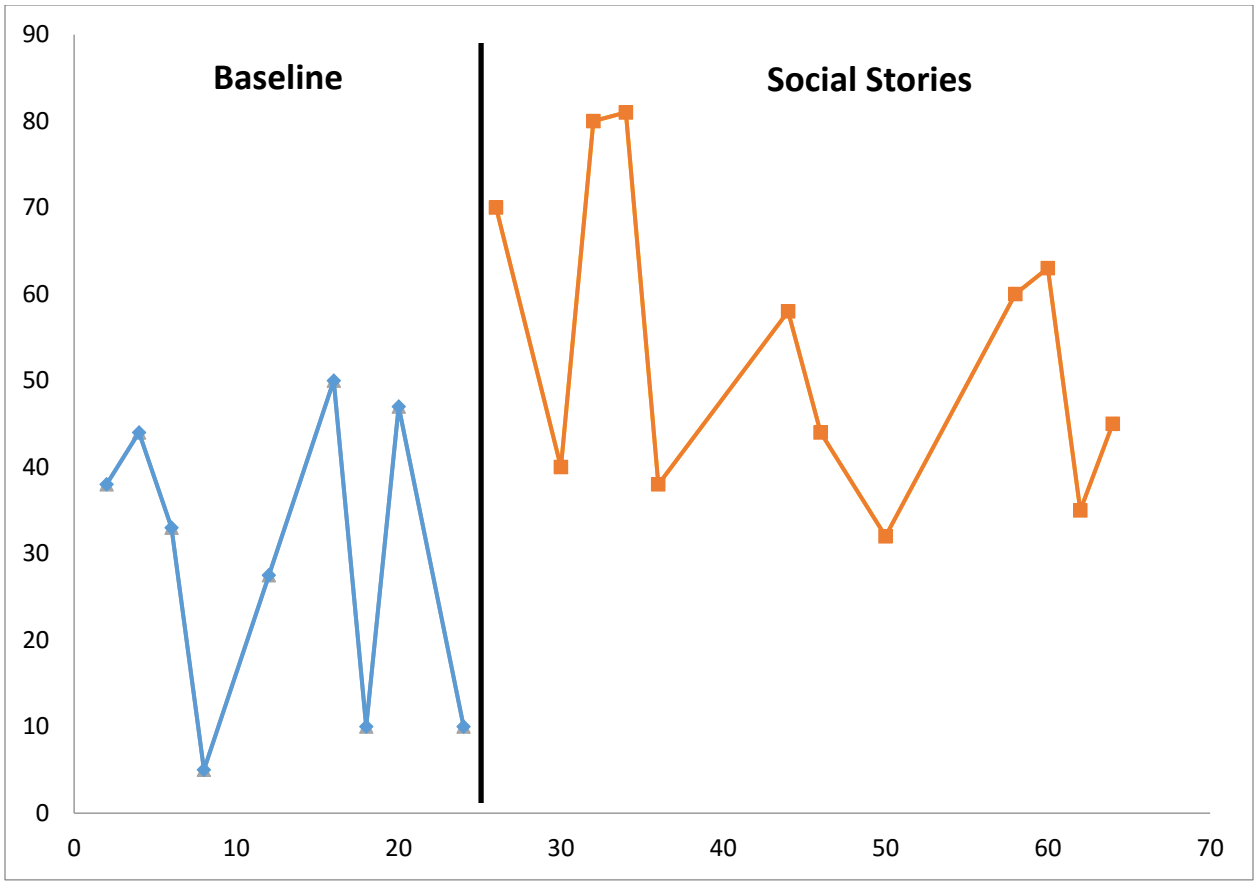
Intervention data were collected three times a week for five weeks. Each intervention session was 10 minutes in duration. Two social stories were written for each student. The social story included information about the targeted behavior (e.g., listening to the classroom teacher, sitting in circle) and where the routine occurred. In the beginning of each session, a social story which described the day's activity was read by the teacher. During the intervention, the student sat across from the teacher and the story was placed in front of the child. The teacher read the social story to the participant each day immediately before the routine that was targeted (e.g., circle time, morning bell). The child was then asked questions regarding what they would do next (e.g., what will you do when it is time for circle?). The researcher then observed the targeted routine but direct interactions with the child did not occur. If the child correctly answered the question, the teacher said, that's right. If the child incorrectly answered the question, the teacher opened the story to the correct response and stated the correct response. The teacher did not provide any other reinforcement during the social story reading.

Results

Overall there was an increase in social interaction behaviors across all participants. The results are discussed for each participant:

Ali

Appropriate social interactions for Ali did change after the introduction of the social story. The mean frequency of on-task (target) behavior or preparing to leave the play room to his classroom in an appropriate way during the baseline was 27% (range = 5-50). During social story intervention, the mean frequency was 50% (range = 31-81).



Figue 1

Sessions

Mohammed

Mohammed demonstrated the largest increase in appropriate social interaction during intervention. For Mohammed, appropriate social interactions was 56% (range 30-60) during baseline. During social story intervention, the mean frequency was 79% (range = 55-95).

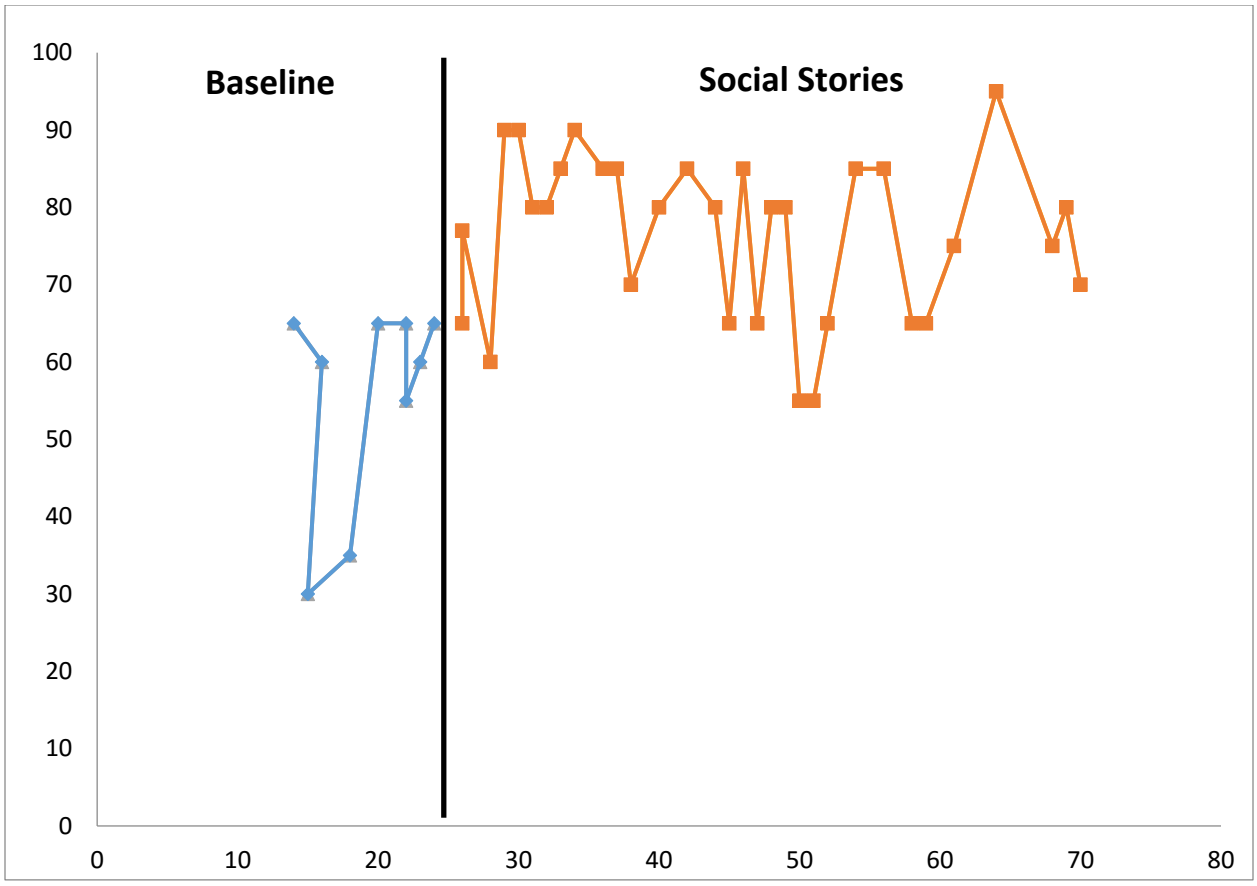
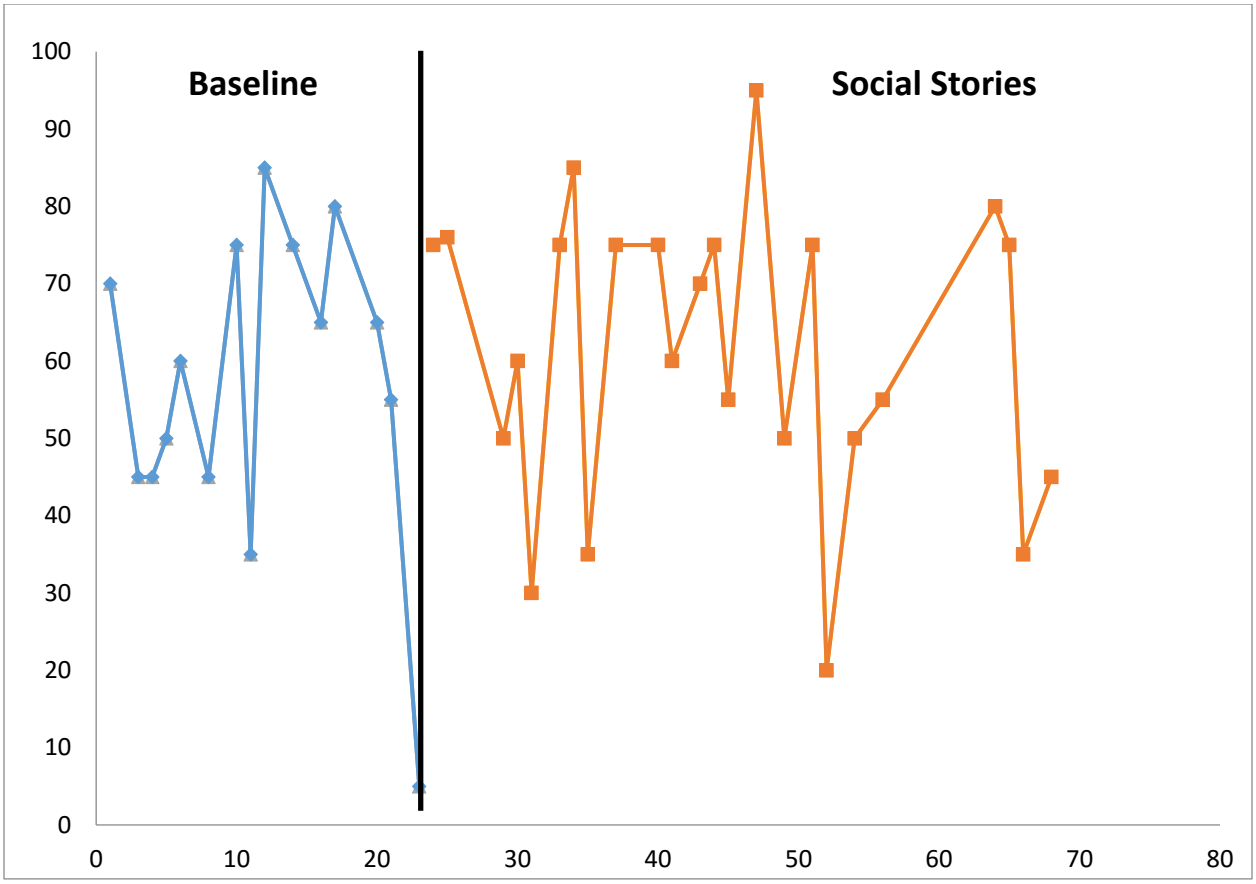


Figure 1

Sultan

Sultan's behavior was highly variable during baseline, the mean frequency of appropriate behavior during circle time for Sultan was 59% (range = 5-95), the mean frequency was 73% (range = 40-90).



Maintenance

Six weeks following the end of intervention, data for two maintenance sessions were recorded. Each participant maintained the level of behavior shown in for the previous intervention. This is further evidence of the effectiveness of the intervention

Discussion

Results of this study partially replicate previous research, which found positive effects for social stories with children with autism (Abdat, 2013; Cihake et al., 2012; Litras e tal., 2010. This study demonstrated that social stories, presented as an auditory-visual support system, were effective in increasing social interaction in three children with autism. Possibly the most interesting and significant aspect of this study is a visual analysis of the data, which clearly shows that the participants benefited from the intervention. As expected, after the participants were given information on how to respond to or act in a social situation, they were able to perform more

appropriately. It also supports the literature proposing visual supports to be efficacious in curbing challenging behaviors in children with a developmental delay.

The study confirms the results of the few other experimental studies (Chan, et al., 2010; Cihak, et al., 2012; Leaf, et al., 2012; Litras, et al., 2010; Wang & Spillane, 2009) that also implemented social stories as the only intervention for a problematic behavior. Unfortunately, three of these studies (Mancil, Haydon, & Whitby, 2009; Koknia & Kern, 2010) implemented social stories after exhausting other treatments that were ineffective. The positive results of these studies may have been due to the unique combination of treatments which ended with social stories. Adamz et al. (2004) used social stories as the sole intervention using an ABAB design with one child. The present study is most consistent with the results of Klett & Turan (2012) and Hanley, et al., (2010). The researchers implemented a multiple baseline design across three participants and used social stories as the sole intervention. The main difference between the two studies was the design of the social stories. Klett and Turan (2012) and Hanley, et al., (2010) used a 'written script' and did not incorporate pictures. The present study included two children in the same classroom. Participant 3, who received the intervention last, was able to hear the social story being read to Participant 1 who received the intervention first. The results show that for the first two days after the intervention was implemented with Ali, Sultan inappropriate behavior decreased. With regard to the overall efficacy of the social stories, the greatest increase occurred for Mohammed, whose social interaction improved from a mean of 56 to a mean of 79. His targeted behavior was a sequence, which had to be completed in a certain order (i.e., leave paly room, get his bag, line up). Sultan demonstrated a modest improvement form baseline to intervention from a mean of 59 to a mean of 73. Ali, on the other hand, demonstrated the lowest improvements from a mean of 27 to a mean of 50. Immediate treatment effectiveness was observed for Mohammed, whose target behavior consisted of appropriate social interaction during circle time. During baseline, Mohammed motivated to interact, as he did not isolate himself during circle time. After the introduction of the social story, appropriate interactions increased as he initiated playing with pees without hitting, a behavior he had not played without hitting during baseline. He also started to raise his hand and wait for his teacher to call on him. On occasion, if the teacher was not looking at him when he raised his hand he would say, "Excuse me." He looked at the teacher more often and participated during the parts of circle time.

Improvements for Sultan, whose social behavior during baseline included inappropriate interactions (.e.g., lying on the ground, and speaking without razing hand). After the introduction of the social story, he looked at the teacher more often, responded when called on, and participated in the reading curriculum but would speak out of turn on occasion.
In contrast, the social story had little effect on Ali's behavior regarding responding to the conversation and interacting with others. One possible explanation for the little effect for Ali may be considered as his weak and communication and his low motivation to engage in social behavior with peers. He has also a problem with the eye contact.
In addition, the data from the maintenance indicated that the effects of social stories may be maintained overtime. In fact Leaf et al., (2012) documented maintenance of most of the newly acquired social interaction skills taught. Educationally, the use of social stories is appealing for a number of reasons. First, these stories are easy to produce. Second, the process of writing story is

not time-consuming. Finally, the results of this study suggest that changes in increasing social skills by using social stories may occur quite quickly.

A limitation of this study is that the researchers were unable to control a number of potentially confounding variables. For example, it was not possible to control the participants' morning schedule before they arrived at school or how other students interacted with them as they arrived. In addition, the timing of the training sessions was possibly a limitation as well. Due to time constraints, it was not possible to present the training before the participants had a chance to greet the teachers every morning. It would be desirable to provide the training immediately before the greeting opportunity as they could have facilitated performance of the targeted behavior.

The age of the participants may also influence the story's effectiveness. Mohammed was 8 years old and Sultan was 8 and 4 months old.

Future Directions

There remain a number of unanswered questions that still need to be addressed. Students with autism display a wide range of abilities. Intervention should be tailored to individual students, further information is needed to determine the optimal parameters of social story intervention. Gray (2004) does not specify the number of times a story needs to be read to be effective. Future research can address effectiveness between stories that are read numerous times a day versus once a day (or less) as well as how long the intervention lasts. The time of day the social story is read may also be addressed (e.g., immediately prior to the situation versus during the situation). Subsequent research may reveal the effects of reading different stories directed at the same behaviors. Future investigations also can examine the additive social stories when combined with other interventions (e,g., rewards systems, video feedback, using iPad to teach social skills). Although the social stories were effective for Mohammed and Sultan, effectiveness may have increased of the participants if they had additional components.

Conclusion

In conclusion, the study replicated and extended the literature by demonstrating that social stories appear to be effective when addressing social interaction difficulties for students with autism. The results of the study indicated all three participants demonstrated an increase in the targeted behavior after social story intervention was implemented even after the intervention was finished, which suggests learning of appropriate social interaction during the introduction of the social story. Social stories appear to hold promise for assisting individuals with disabilities in general and with autism in specific by providing social information they may be lacking.

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Preventing and Responding to Student Escalation: Combining De-Escalation Strategies and Function-Based Support

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Abstract

Preventing and responding to intense problem behavior in schools is has garnered increased attention. With recent attention focused on the restraint and seclusion of students with disabilities, educators are in need of effective ways to respond to student escalations that result in severe, disruptive problem behavior. By combining the research-based approaches of de-escalation strategies and function-based supports, educators can increase the likelihood of developing proactive interventions and supports. This paper provides an overview of how to integrate and implement these research-based models of understanding challenging behavior.

Preventing and Responding to Student Escalation: Combining De-Escalation Strategies and Function-Based Support

Many teachers report that aggressive behavior and other incidents leading to physical restraint are becoming more common. Indeed, a number of states have developed rules and regulations to govern the use of safe, effective restraint procedures in schools (Freeman & Sugai, 2013). But despite policy efforts to make restraint procedures safer and transparent, the act of restraining a student can be a physically and emotionally exhausting event for both the student and teacher. Thus, while making restraints safer is a laudable goal, preventing the need for physical restraint is often seen as preferable to restraining a child at all. In this article, we present two frameworks commonly utilized to address and prevent emergency situations (e.g., aggressive behavior, self-harm) that may result in physical restraint. De-escalation strategies and function-based, individualized behavior support both have a long, documented history of effectiveness for students with EBD who engage in aggressive behavior (Crone & Horner, 2003; Wood & Long, 1991). However, these approaches are often utilized independent of each other. If these two sets of tools are used separately without considering the other, we as teachers of students with behavioral difficulties may be failing to comprehensively address the emotional and behavioral needs of this vulnerable student population. By integrating de-escalation strategies and function-based supports, educators may be better able to meet student needs in a proactive, comprehensive manner. In this article we will discuss a framework for integrating common de-escalation strategies and function-based support. We begin with overviews of both de-escalation and function-based support. Then, we offer a problem solving process for planning the use of effective de-escalation strategies by using a function-based framework. While the focus of this article is on students with emotional/ behavioral disorders, other students with and without disabilities who exhibit challenging behavior may benefit from such strategies as well.

De-Escalation Guidelines

Students with EBD often exhibit aggressive behaviors in the school (Walker, Ramsey, & Gresham, 2004). Teacher-student interactions can either serve to escalate or de-escalate a conflict. Escalating a conflict will result in students' behavior becoming out of control and dangerous, while de-escalation techniques will return the student to a non-agitated state. The teacher's job is to learn to decode behavior and intervene appropriately. With proper interventions and de-escalation practices teachers can prevent the majority of high intensity behaviors.

The Conflict Cycle

Student behaviors can directly influence the attitudes, feelings, and behaviors of adults. Nicholas Long (Wood & Long, 1991) developed the Conflict Cycle, which illustrates a circular process in which teacher-student interactions mutually and continuously affect each other. Wood and Long (1991) describe the process in five steps. The student starts out with a negative self-image that makes him/ her more vulnerable to a stressful event. The student interprets this event in a manner that creates uncomfortable feelings and drives an emotional response. The resulting behavior is often defensive and aggressive. The teacher then reacts to the student's behavior. This reaction can be counter-productive and become another stressful event starting the cycle over again. The repetition of conflict cycles can lead to a behavioral crisis.

Students almost always show precursors to violent or aggressive acts. Therefore it is hypothesized that aggression occurs in stages. Walker, Colvin, and Ramsey (1995) present a seven-phase process in which teacher-student interactions can either heighten or de-escalate conflict. The child starts out in the calm phase. During this time the child is cooperative, compliant, and exhibiting desired behaviors. Next a trigger event creates unresolved problems or stressors. If these problems remain unresolved the child escalates into the agitation phase. Here the child's behavior is unfocused and off-task. In the acceleration phase the child moves onto teacher-engaging behaviors. This is also referred to as the baiting stage. If the coercive process continues, the student will escalate into the peak phase. This phase is characterized by behavior that is out of control and possibly dangerous. As the behavior runs its course, the child progresses into the de-escalation phase and eventually the recovery phase. If teachers intervene appropriately in the early phases they can potentially prevent students from escalating into the more intense phases of aggression.

Preventative Techniques

There are many steps that can be taken during the calm phase to prevent students from beginning to escalate. Muscott (1995) supports teachers creating positive relationships with their students based on mutual respect. This will help build trust and rapport. As teachers get to know their students, they will be able to recognize patterns and remove potential triggers. Muscott (1995) also promotes providing effective, relevant, and motivating instruction as well as the use of positive behavior supports to reinforce appropriate behavior. Teachers will experience less aggressive behaviors because students will be engaged in academic tasks and receive incentives and positive attention for desired behaviors. Additionally, teachers should develop class-wide and individual management plan for addressing aggressive behavior in the classroom (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Preplanning helps teachers feel less anxious and

practice will allow situations to run smoother. Teaching students coping mechanisms, such as social skills and anger reduction techniques, beforehand will give them the skills needed to de-escalate themselves and prevent a stressful situation (Muscott, 1995).

West (2009) argues that redirection can be a very effective tactic to divert the student from the behavior escalation path. Teachers can redirect students to the desired behavior by a delivering a quick, clam statement about what the student is expected to be doing and then disengaging. Getting a student involved in a different activity can help them forget about the situation that was causing them discomfort. Distracting the student by changing the topic of conversation can relieve stress that may lead to aggressive behaviors. Redirection must be implemented relatively early in the stages of aggression to be effective on its own. However, even in the later stages redirection can effectively distract a student in order to give them time and space to calm down before addressing the productively addressing the situation at hand.

De-escalation

When prevention steps are not enough, communication will be a large part of de-escalating students (Picone, 2009). A large percent of communication is non-verbal. Therefore, teachers should focus on controlling their body language, voice, and proximity before engaging a student. The most important thing is for the teacher to remain calm. Picone (2009) advises that teachers keep non-verbal cues non-threatening and non-challenging. To start, getting down on the child's level can avoid the child feeling as if the teacher is looming over them. Body posture should remain comfortable and relaxed (West, 2009). Gestures such as crossing arms and pointing fingers should be avoided for the most part. Movements should be kept slow, deliberate, and non-confrontational. Picone (2009) recommends standing off to the side of the student and at an angle. With this method the teacher can avoid standing "toe-to-toe" with the student and give eye contact without demanding it in return, as that can be interpreted as a challenge. This position will also increase the safety of the teacher by ensuring they will be able to avoid the student if they become physical. According to Picone (2009), the teacher needs to respect the student's personal space. This will preserve the child's comfort and the teacher's safety. The specific distance will depend on the child, but in general teachers should keep one and a half to three feet between themselves and the student. This is far enough away to remain out of reach of the child, but close enough to engage them. In general physical contact should be avoided with an escalated child. Tone, volume, rate and intonation of the voice can all convey different messages. West (2009) defines controlling one's voice as remaining calm, firm, and confident. In general a lower tone and volume are preferable. In addition, the rate of speech should remain slow to ensure the child understands what is being said and convey calm and patience.

Once a student begins to escalate the first step towards de-escalation is to open clear lines of communication through active listening. According to Dufresne (2003), in order to actively listen, the teacher must give the student their undivided attention and approach the student without judgment or assumptions. This entails minimalizing external and internal distractions as much as the situation will allow and keeping an open mind as the student talks. To ensure understanding, the teacher can clarify, repeat, and re-state as the child talks. This will help both the child and the teacher identify the child's emotions and connect them to the behavior (Dufresne, 2003). The teacher should remain respectful even if the student is not. During this conversation the teacher can draw on their rapport and relationship with the student to help

promote trust and respect (Musott, 1995). Using the student's name helps to personalize the interaction and give it more of an impact. Permit the student to verbally vent without limitation as much as possible (West, 2009). This will allow the student expel energy without becoming aggressive. Dufresne (2003) encourages teachers to allow for moments of silence. Not immediately responding doesn't always represent defiance. Students may need a moment to think about their answers or process what has already been said. Silence can help if a student is disrespectful or inappropriate. Often students want a reaction from adults, by refusing to continue the conversation until students can show that they are ready the teacher is denying the student reinforcement for unacceptable actions. As the student speaks it is important that the teacher validate the student's feelings through empathy (West, 2009). Often students interpret reactions to their behavior as a sign that their feelings are unacceptable. Students need to understand that their feelings are appropriate; it is only their resulting behavior that is not. Even if the situation seems insignificant to the teacher, it is important to the student and therefore should be taken seriously. Often, active listening is all that's needed to de-escalate a child.

Addressing Emergency Situations

If a student does become physically aggressive it is important that teachers remain calm and direct students towards acceptable ways of expressing their anger. When students repeatedly hear "no" and "stop" the words begin to loose meaning and sound like nagging. Instead, teachers should tell the student what they *can* do by offering alternatives. For example throwing objects can be acceptable as long as students are not destroying property or endangering others. Objects such as stress balls or crash pads are safe alternatives for expelling energy. Allowing a student to "stomp/yell it out" can be effective as well. If possible, teachers should request that students to calmly express their need for space by asking for permission to engage in the action they are exhibiting. Adults should set limits for the student as he/she expresses their anger. This can include visual boundaries, time limits, and choices for acceptable actions. Verbally tell the student that teachers will provide time and space as long as the student remains safely within the limits provided. Using silence is advised in order to allow the student to work through their emotions and prevent the student from tuning out other's voices. Continue to use active listening techniques such as validating feelings and clarifying what the student is saying. At some point teachers need to determine a spot for the student to sit once they are calm and ready to have a conversation. Once the student has sat down teachers should thank and praise them for calming themselves down. At this point another minute of silence can be useful to ensure that the student is truly calm and ready to talk (Dufresne, 2003).

Reasoning with a student that is enraged and out of control is not possible. However, active listening will help move the student out of the peak phase where they will regain the ability to rationalize. At this point the teacher can focus on leading the child through the problem solving process. Muscott (1995) outlines the problem-solving model as identifying the problem, brainstorming possible solutions, evaluating the consequences of each solution, picking the best solution, implementing the solution, and evaluating or following up. Teachers cannot force students to exhibit a certain behavior, but they can help students realize the positive outcomes of choosing the desired behavior. It is important to give students choices and by extension control instead of demanding compliance (Picone, 2009). The problem solving process can also help the teacher realize how to better help the student in the future and what the teacher may be doing wrong that contributes to the student's behavior. Misbehavior can always be turned into a

teaching moment by completing the problem solving process and following up with the student. Teachers can help students learn from their misbehavior by teaching new coping skills, practicing replacement behaviors, and developing a plan for next time (Muscott, 1995). It's important to note that some behaviors may be the result of a skills deficit, not a deliberate choice to exhibit an undesired behavior. By turning the behavior incident into a teaching moment the teacher ends the cycle on a positive note and therefore sets the stage for the student to be successful the next time.

During the recovery phase the student may prefer busy work and be subdued. Muscott (1995) points out that escalation can be physically and mentally exhausting, especially if the student reaches the peak phase. Students may require a short time to rest. Once the student is ready, the teacher should aid the student in repairing and restoring relationships and integrating back into the routine. Praise and other forms of positive reinforcement should be delivered to the student as soon as they comply or exhibit the desired behavior (West, 2009). Muscott (1995) recommends reporting and recording behavior escalations. This will help monitor students' progress and may be required by certain students' programs.

When a child is exhibiting acute physical behavior that is likely to result in physical injury, restraint may become necessary to safely de-escalate the child. Increasingly restraint is commonly being accepted as a last resort and only used to contain physical behavior when the child or others are in imminent risk of physical harm (Freeman & Sugai, 2013; LaFond, 2007). It is not an appropriate technique to demonstrate authority, enforce compliance, inflict harm, discipline, or punish. Restraints should be avoided when the child cannot be safely controlled, the staff is not in control, sexual stimulation is the motivation, the child has a weapon, or the child's medical or emotional condition prohibits it. Only trained professionals may attempt to restrain students and every step is forecasted and communicated to the student as it happens. LaFond (2007) indicates that the focus of physical restraint should be to prevent injury while preserving the dignity of the child as much as possible. Many therapeutic holds now focus on restricting a student's movement instead of immobilizing them. A continuum of intrusiveness is used to determine the appropriate level of intervention. Untrained staff members are limited to using the minimal amount of physical contact possible to protect and ensure the student's and others safety until trained staff arrives. If de-escalation and less intrusive techniques are used correctly, restraint should become unnecessary in most situations.

Teacher Needs and Responsibilities

In order for the de-escalation process to be functional in the field it is imperative that teachers be flexible (West, 2009). There is not a strict set of steps for de-escalation. Every behavior incident will be different and students will react differently to certain responses. The general guidelines outlined previously should be kept in mind. However, if the teacher gets too caught up in the process they could potentially escalate a student by providing an inappropriate response. Teachers must assess each situation, listen to students' responses, and adapt the process accordingly.

Continuously managing aggressive behavior can be very stressful. According to Dufresne (2003), teachers need to recognize their personal limits. This involves acknowledging when they need help or a break. It is important for co-workers to work together and take requests for

assistance seriously. If staff becomes escalated students may feed off of it and escalate as well. After a behavior is over staff should take the time to debrief and de-escalate themselves.

When students are escalated they will often use insults and threats. Teachers need to keep in mind that these statements are meant to bait them and should not be taken personally. Muscott (1995) suggests that teachers separate themselves from the situation. If teachers take comments personally it will increase the chance that they will become emotionally involved, resulting in counter aggression and escalating the child's behavior. Once a behavior has run its course, teachers should put the incident behind them and move on without holding grudges. Children with behavioral difficulties are often deemed hopeless by staff, which only serves to decrease their self-esteem and cause more behaviors. By offering a clean slate every day and not expecting undesired behaviors from students, the staff allows students to trust them and increases the likelihood of compliance.

Behavior management can be the hardest part of maintaining a classroom. Non-compliant and disruptive behavior can pull the class off-task and decrease instructional time. When behavior escalates safety can be become an issue and the student often has to be removed from the environment. By learning how to de-escalate students early in the stages of aggression, teachers can prevent high intensity behaviors and increase the likelihood that the classroom will run smoothly. If students do reach the peak phase of aggression, teachers will know how to safely and calmly help move them back to a non-agitated state and keep students in the learning environment as much as possible.

Function-Based Individualized Behavior Support

Function-based support is an evidence-based, assessment and intervention process (Gage, Lewis, & Stichter, 2012; Crone & Horner, 2003) that involves team-based data collection, data analysis, and plan development. Function-based support includes assessment-based procedures to identify what triggers (i.e., antecedents) and maintains (i.e., function) problem behavior (Umbreit, Ferro, Liaupsin, & Lane, 2007). By understanding what triggers a problem behavior, adjustments to the environment can be made to prevent the problem behavior from occurring in the first place. Function refers to what reinforcement the student obtains by engaging in the problem behavior. Positive reinforcement includes what the student obtains (e.g., social attention, preferred items or activities) while negative reinforcement refers to what the student escapes or avoids (e.g., social attention, less preferred or difficult tasks). When the function is determined, approaches for discouraging problem behavior and increasing desired behavior are effectively identified and implemented. Interventions for discouraging problem behavior can include extinction procedures where reinforcement is removed from the student. For example, an extinction procedure for a student who engages in problem behavior for attention may include planned ignoring by the teacher. Positive reinforcement strategies such as praise, behavior contracts, or token economies should also be utilized to increased desirable behavior. A full discussion of function-based support is beyond the scope of this article but a number of print and web resources are available (see www.pbis.org, Crone & Horner, 2003; Umbreit et al., 2007). Below, we briefly define and describe each of the important pieces of information needed to implement function-based support.

Functional Behavioral Assessment Information and Data

Functional behavioral assessment is an evidence-based process designed to identify conditions in which challenging behaviors are most likely to occur. Oftentimes, the FBA process includes a number of data collections strategies including interviews, direct observation, and checklists (Umbreit et al., 2007). The intent of these data collection strategies is to identify important information that can be used to develop a behavior support plan. This information includes:

1. An operational definition of the problem behavior:
2. The context(s) (including location, activities, others around) where the behavior is most likely to occur:
3. Setting events and antecedents: Setting events and antecedents occur behavior the problem behavior and may include the context in which the behavior occurs (e.g., classroom). Antecedents are proximal events that are likely to trigger the problem behavior. Antecedents may include the presentation of undesirable tasks or specific commands or demands that the student deems undesirable.
4. Consequences and function: Consequences refer to events that occur after the problem behavior. By identifying consequences, educators can form a hypothesis about the likely function of the problem behavior. Function refers to what reinforces, and thus maintains, the problem behavior. Reinforcers may be positive (obtain) or negative (escape/ avoid).
5. Summary: The above information is then summarized into usable information intended to develop a behavior support plan. This summary typically is displayed in an ABC model (antecedent, behavior consequence) where triggers, problem behavior and reinforcing conditions are documents (Umbreit et al., 2007.

Behavior Support Planning

Once FBA data is collected, a team develops a positive behavior support plan. This includes adjusting or removing antecedent triggers to make the problem behavior less likely to occur, teaching positive, prosocial replacement behaviors, and identifying positive consequences to reinforce desirable behavior. Additionally, consequence strategies designed to reduce the reinforcement for problem behaviors are often identified. These are referred to as extinction strategies. The entire FBA and BSP process can then be used in an integrative fashion for addressing the needs to students exhibiting dangerous or unsafe behavior.

Integrating De-escalation and Individualized Behavior Support

Increasingly, states and districts are asking that school professionals document and respond to emergency situations that result in restraint (Freeman & Sugai, 2013). Often, this process includes completing a form and/ or engaging in a systematic debriefing process where key events of the incident are documented and discussed. One intent of this process is to identify more effective responses to future incidents where a student may become escalated, regardless of whether the escalation results in restraint. By utilizing function-based support planning during this process or other incidents that involve escalated behavior, educators can efficiently process the incident in a proactive manner by developing a comprehensive plan to prevent or address future escalations. Rather than create a new process for addressing the needs of students engaging in escalated behavior, here, we present a research informed problem solving approach integrating Walker and colleague's (Walker, Colvin, & Ramsey, 1995) escalation cycle and

function-based planning. Each phase of the escalation cycle is considered by using "function-based thinking" where consideration of setting events, antecedents, and consequences are emphasized. This approach is best utilized as a team-based process where staff members involved in the incident discuss the presenting problem with school administrators and other staff with behavioral expertise (e.g., behavioral consultant, coach, school psychologist). Upon completing of the Function-based Escalation Review (FBER; see appendix), a proactive, individualized plan can be developed to prevent further escalations.

Function-based Escalation Review Process

It is important to note that this process should not replace a full functional behavioral assessment, which may be part of the special education process and/ or the development of a comprehensive behavior support plan which includes indirect (interviews, records review) and direct methods (e.g., observation, functional analysis) of assessment. Similarly, if a student has engaged in the escalation cycle multiple times, a full FBA would likely be more appropriate. It may also be used for students who currently have function-based support plans but the effectiveness of such plans is limited. Thus, the intent of the FBER is to proactively support students beginning to exhibit more significant behavioral challenges and prevent escalations from occurring in the future. It may also be used as a way to develop crisis intervention strategies for individual students. One advantage of using this process is that it simultaneously documents the incident (providing data that could be utilized in a full FBA) while supporting a proactive, function-based plan. Thus, it can support the efficient use of time and resources.

Steps for using the FBER

1. *Identify if student's presenting problem is appropriate for the FBEA process.*

The FBEA process is intended to be an efficient framework to support problem solving. This is in contrast to a full assessment process that includes a functional behavioral assessment. Therefore, this process is intended for students who may have just begun exhibiting challenging behavior. Students exhibiting chronic challenging behavior that results in escalations may better be served by comprehensive function-based behavior support plans. However, the tool may also be helpful for such students if it is part of a larger, more comprehensive behavior support plan or crisis intervention plan.

2. *Complete the function-based escalation review.*

Once students are identified, it is important to complete the problem solving process using the FBER. Consistent with best practice in FBA this is a team-based process, which should include any staff involved in the incident as well as at least one staff member with expertise in function-based support (Crone & Horner, 2003). Administrators and parents may also be included in the process as needed. The first step is to document the incident including the time, location, and the task or activity being completed. Then, staff members should discuss the student behavior exhibited throughout the escalation cycle beginning with the calm phase and ending with the recovery phase. It is also important to identify what behaviors staff and other students were engaged in. These behaviors may have served to escalate the student or may be reinforcing the student. Thus, documenting their existence is important. For example, if the student was engaging in escalating behavior such as threats, it may have been to gain the attention of peers. Documenting whether or not peers were actually providing that attention would be critical for

developing a proactive plan (see step 3). Once the full incident is documented, staff reviews this objective data to develop a hypothesis about potential antecedents and a function.

3. *Develop a plan for each phase of the escalation cycle.*
Using the available data including the hypotheses about triggers (i.e., antecedents) and function, the team develops a proactive plan for preventing and addressing the problem behavior in the future. The goal of such plans is to prevent or mitigate further escalation by the student. Each section of the planning tool focuses on a specific phase of the escalation cycle. To make the planning process more efficient and effective, each phase of the plan includes guiding questions.

A major focus of this planning tool is on preventive strategies which teach/ review prosocial behaviors and reinforce positive/ expected behavior. These are emphasized before the student engages in unsafe behavior as attempting to teach or reinforce positive behavior when the student is in an escalated state tends to be less successful and may serve to further exacerbate the problem (Walker et al., 1995). Strategies for supporting and maintaining safety for all are also woven throughout the plan. Safety strategies emphasize arranging or rearranging the environment to minimize danger. The final phase of the plan includes interventions during or after the recovery phase. The emphasis here is on proactive strategies to reengage the student in prosocial behavior. The goal is not to identify harsh punishments. Such tactics have less chance for success and may impede positive teacher-student relationships. Any consequences employed should be done so in a non-confrontational manner (Muscott, 1995). They should also emphasize education, inviting the student to repair any harm that may have been done or re-educate the student on expected behavior.

4. *Collect data on the plan's effectiveness.*
Having a plan in place to prevent and address escalated behavior is an important step to supporting students. However, it is equally important to collect data on the effectiveness of the plan. Before adjourning the problem solving meeting, the team should identify what data will be collected to monitor the effectiveness of the plan. It should also be known who will be collecting this data. Data may include frequency counts on instances of problem behavior, office discipline referrals, or number of times the student was restrained or secluded.

5. *Monitor and review the plan.*
The team must also plan to review and discuss the effectiveness of the plan. Given the nature of escalated behavior, it is recommended that the plan be reviewed soon after its development (e.g., within a week). If the student's escalated behavior continues, the need for more comprehensive functional behavioral assessment and behavior support planning may be necessary.

Other considerations
Although this problem solving process holds promise for educators working with students with EBD, it is important to consider important prerequisite needs before implementing this or similar procedures. First, the team working through this process should include at least one professional with experience or training in function-based behavior support (Crone & Horner, 2003). Having the background knowledge of important concepts such as function and antecedent is necessary to accurately complete the form. Such expertise can also be useful when determining if the student's presenting behavioral challenges are appropriate for this process or if more (or less)

intensive assessment and intervention procedures are necessary. Also, it is helpful to integrate this with existing procedures and protocols for responding to school-based crises. For the process to be effective, it is important for it to be part of the standard operating procedures of the school or program so staff can build fluency with the process. Also, this process should be coupled with more formal training on de-escalation and the appropriate, safe use of physical intervention such as restraint.

Conclusion and Next Steps

In this article we presented an efficient problem solving approach using function-based support for students with EBD who engage in problem behavior commonly occurring within the escalation cycle. Although more research is needed on understanding how this and other problem solving approaches can be utilized, using a function-based processing tool to document, review, and discuss student escalations offers an efficient, research-based approach for supporting students with EBD.

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Function-based Escalation Review and Planning Form

Student name: _____Staff present for meeting: _____

Date of Incident: _____Staff present during incident:_____

Phase	Environmental Information			Description of phase		
	Time	**Setting**	**Task**	**Student Behavior(s)** What was the student doing?	**Staff Behavior(s)** What were staff doing?	**Other students' Behavior(s)** What were other students doing?
1. Calm						
2. Trigger						
3. Agitation						
4.Acceleration						
5. Peak						
6. De-escalation						
7. Recovery						

Antecedent- What appeared to trigger the student's escalation? (consider information found in #'s 1-3 above):

Consequence- What did the student obtain or escape/ avoid as a result of the escalation? (consider information found in #'s 3-6 above):

The student obtained_____

The student escaped/ avoided: _____

Student:_____ **Team members:**_____

Preventive/Antecedent Strategies		Safety Plan		Consequence Strategies	
Calm: What can be done to reinforce the student for engaging in prosocial behaviors during the calm stage? What strategies can be taught/ reviewed to support student self-management?		**Acceleration:** What factors that trigger or maintain the behavior can be removed?		**Recovery:** What reasonable, educative consequences can be implemented with the student? What behaviors should be positively reinforced to support reengaging student?	
Trigger: What can be done to remove the triggers associated with escalation and provide opportunities for student to be successful?		**Peak:** (see acceleration phase) What needs to be done to effectively implement crisis procedures?		**Other Support**	**Plan Considerations:**
Agitation: What modifications can be made to the environment to maintain safety? What options can be provided to the student to support success?		**De-escalation:** What interactions need to be avoided to prevent re-escalation?			

Plan Implementation Date:_____Plan Review Date: _____What data will be collected to monitor effectiveness of the plan:_____

Teaching Sam to Read: An Integrated Team Approach with One Child with Autism Spectrum Disorder

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Abstract

Few evidence-based practices are available to guide educators in teaching reading to children with Autism Spectrum Disorder who have complex learning and behavioral needs associated with the symptoms of ASD and common co-occurring conditions, such as Attention Deficit/Hyperactive Disorder and Specific Learning Disability. Some researchers have suggested aligning interventions with the general learning profile of children with ASD. Other studies recommend using a comprehensive treatment model for behaviors associated with ASD. This case study documents how utilizing a comprehensive approach to address the unique learning profile of one child with multiple neurodevelopmental disorders led to significant gains in that child's reading achievement. The authors suggest that the combination of interventions for one child with one learning profile may be effective for other children with ASD with a similar constellation of symptoms.

Teaching Sam to Read: An Integrated Team Approach with One Child with Autism Spectrum Disorder

The volume of materials addressing teaching children with Autism Spectrum Disorder (ASD) to read is replete with correlational studies as well as suggestions and conjecture (e.g., Nation & Norbury, 2005; Whalon & Hart, 2011). The literature is limited, despite the volume, in that there is little research about the use of instructional strategies, packages of interventions, or comprehensive treatment models to support teachers of students with ASD. Frith (2012) commented, "We are still in the dark ages as far as educational interventions are concerned" (p. 2088).

Comprehensive treatment models, or packages of interventions associated with ASD have been in existence for over 30 years. Furthermore, successes of these packages and approaches are well documented (Odom, Boyd, Hall, & Hume, 2010). These models, however, such as Lovaas (Lovaas Institute, 2014), mostly focus upon treating behaviors and developmental delays associated with ASD instead of focusing upon the teaching of academic skills, specifically reading.

While instructional packages, linking behavioral interventions to increase academic achievement for children with either behavior disorders or learning disabilities (Dolezal, Weber, Evavold, Wylie, & McLaughlin, 2007; Edwards, Salant, Howard, Brougher, & McLaughlin, 1995; Holz, Peck, McLaughlin, Stookey, 1997) do exist and are often reported in the literature, limited literature supports the principle of instructional packages, or comprehensive treatment models,

for use with students with ASD who are high functioning and need support with academics. A possible reason for this may be the complexity of the combination of symptoms that are unique to persons with ASD. Carnahan et al. (2009) did recognize the variety of learning profiles of children with ASD and attempted to match specific literacy strategies with general classroom management systems (e.g., visual supports, video modeling, and work systems). However, the authors did not address the varied atypical behaviors that also impact the ability of children with ASD to benefit from validated instructional practices.

One important observation derived from the literature was that the teaching of reading to children with ASD is not a unified construct, meaning that one size does not fit all. Some authors did note that children with ASD who are high functioning (i.e., having intact language and at least average IQ) have strong decoding skills and weak comprehension skills (Huemer & Mann, 2009). Furthermore, some children with ASD have the ability to focus on detailed visual information and have good rote memory, which also contributes to strong decoding skills. Despite these general patterns, however, children with ASD have shown marked variability in basic reading, which is due, in part, to large differences in oral language abilities (Norbury & Nation, 2011). Finally, Nation, Clarke, Wright, and Williams (2006) suggested that children with ASD, on the whole, have strengths in decoding and greater difficulty with language and reading comprehension. They also noted, however, the wide heterogeneity in reading ability for those on the ASD continuum. Hence, not all children with ASD have good rote memory, intact language, at least average IQ, and ability to focus on detailed visual information. Therefore, it is likely that teaching reading to children with ASD is not as easy as identifying one or more research-based strategies.

It is our contention that any academic instruction, especially reading, is most successful if grounded in the complex interplay between common constellations of symptoms across the variable manifestations of ASD. Such symptoms might include over-attention to detail with a limited ability to generalize information to a broader context, lack of social awareness, weak ability to interpret the intentions of others, and weakly developed executive functions (e.g., emotional control, inhibiting impulses, planning and organizing, shifting attention, or self-monitoring) (Burnette et al., 2005; Ozonoff, Pennington, & Rogers, 1991). The challenge of teaching a child with ASD to read may be even further compounded when commonly occurring comorbid developmental disorders are present (e.g., ADHD, Learning Disabilities, Intellectual Disability) (Matson & Nebel-Schwalm, 2007).

Considering the variety of possible presentations of symptoms across ASD, comorbid conditions, and the reading skill level of an individual child, including phonemic awareness, phonics, fluency, vocabulary and comprehension (National Reading Panel, 2006), it is probable that a treatment program with multiple components is needed to address each child's unique academic and behavioral needs. If this is so, then it is also possible that one package of interventions that addresses one constellation of symptoms may also be indicated for another child who presents with a similar array of academic and behavioral attributes. The purpose of the present study is to describe an integrated treatment approach that included explicit instruction and behavioral supports in reading for one child whose learning profile was complicated by significant symptoms of ASD, comorbid ADHD Combined Type, and Specific Learning Disability. This is presented in the hopes that a thorough description of the symptoms, the instructional program,

and the instructional process will give some guidance for teaching children who present with a similar pattern of characteristics.

Description of Sam

Sam, a pseudonym for the purpose of confidentiality, was a 5-1/2-year-old male who lived with his biological mother and father and two siblings in a residential home in a suburban area. Sam was diagnosed through a well-known Autism Center in the Pacific Northwest and met the diagnostic criteria for ASD, ADHD-Combined Type, and Specific Learning Disability. At the start of intervention, Sam had been placed in a general education kindergarten classroom for approximately six months. According to school reports, Sam had made minimal academic progress. He refused to participate in classroom activities and lessons, including lessons provided in small groups. Behaviorally, Sam exhibited frequent tantrums and isolated himself from his peers. The most common behavior management strategy was removal from the classroom. Sam was provided with limited supports or services beyond what is typically provided in a general education kindergarten classroom.

Cognitive Abilities

Sam's cognitive abilities were measured in February 2011 by a child psychologist in private practice who used the Stanford-Binet Intelligence Scales – Fifth Edition (Roid, G, 2003). Sam's full scale IQ was measured at 109. This score fell at the high end of the Average range. A complete breakdown of individual indexes is not available since the report did not contain detailed information.

Behavioral Characteristics

October 2012, Sam's behavior was evaluated by the school psychologist at his local elementary school. According to the psycho-educational report, Sam displayed significant levels of behavior at school and home consistent with his diagnoses of ASD and ADHD. Scores based on Sam's teachers' and parents' ratings on the Behavior Assessment System for Children – 2nd Edition (BASC-2) (Reynolds & Kamphaus, 2004) revealed clinically significant levels of Internalizing and Externalizing behaviors, yielding Behavior Symptom Index scores that also fell in the Clinically Significant range. More specifically, Sam was rated as being significantly more active than his peers, showed higher levels of anxiety and/or depression, displayed a number of behaviors that would be considered strange or odd, and struggled significantly with changes to his routine and environment and with functional communication.

Results of the Behavior Rating Inventory of Executive Function (BRIEF) (Gioia, Isquith, Guy, & Kenworthy, 2000), completed by Sam's teachers and parents, yielded clinically significant scores on the Behavioral Regulation and Global Executive Composite indices. These findings suggested that Sam showed significant difficulties with numerous executive functions, including inhibiting impulses, shifting attention, controlling emotions, initiating tasks, holding information in his mind for the purpose of completing a task, planning/organizing, self-monitoring, and being aware of his own functioning.

Anecdotal behavior reports were consistent with the results of the BASC-2 (Reynolds & Kamphaus, 2004) and BRIEF (Gioia et al., 2000). Reportedly, Sam displayed outbursts when

frustrated or experienced a change in his routine. According to his mother and teachers, Sam had meltdowns lasting anywhere from 20 minutes to 2 to 4 hours, sometimes up to three times per day. Moreover, Sam's classroom teachers noted that he struggled to follow school and classroom rules. Despite having one-to-one teacher assistance at his desk, Sam often refused to participate in academic tasks, getting out of his chair and roaming the classroom. A summary on Sam's psycho-education report (10/2012) stated, "… demonstrates significant difficulty controlling his impulses and maintaining the level of attention necessary to be successful in the general education classroom." All of these behavior problems are typically seen in children diagnosed with ASD.

Sensory Processing

It is common for children with Autism Spectrum Disorder to experience difficulties processing sensory stimuli that can make academic achievement more challenging (Baker, Lane, Angley, & Young, 2008; Ashburner, Ziviani, & Rodger, 2008). The Sensory Processing Measure (SPM) (Parham, Ecker, Kuhaneck, Henry, & Glennon, 2007) is a standardized, norm-referenced measure that is used to identify children with sensory processing difficulties. The SPM was completed by the school's special education teacher and by Sam's mother. Sam's standard scores for both the home and school settings (74 for both domains), fell far below normal, indicating significant dysfunction in sensory processing.

Language Development

By definition (DSM-V, 2013), children with Autism Spectrum Disorder will demonstrate impairments in the area of communication. In Sam's case, he did not begin to speak in complete sentences until he was four years of age. Additionally, Sam had a speech impediment requiring interventions for articulation. However, according to results of a comprehensive evaluation, dated 10/23/2012, Sam's receptive vocabulary and oral expressions skills were within the normal range as assessed by the Peabody Picture Vocabulary Test (Dunn & Dunn, 2007) and the Wechsler Individual Achievement Test – 3rd Edition (WIAT-3) (NCS Pearson, 2009).

Academic Skills

Sam's academic skills were assessed during a psycho-educational evaluation conducted on 10/23/2012. Results of the WIAT-3 indicated Sam's standard scores fell far below normal on measures of Early Reading Skills (74) and Written Expression (73). Additionally, indicative of delayed development of Sam's fine-muscle motor skills, his standard score of 75 fell far below normal for Fine Motor coordination as measured on the Miller Function & Participation Scales (Miller, 2006). His performance on the Participation scale also indicated significant delays for both home and school ecologies. Consistent with these latter findings, his teacher reported Sam had difficulty with drawing and coloring, and stated that Sam often displayed rage-like behaviors when asked to do paper/pencil tasks.

At the outset of intervention, Sam was able to name only 3 letters in the alphabet out of the 26. According to curriculum-based measurements, he did not know any of the sounds for the letters, and he did not recognize individual sounds in words. Additionally, he did not attend to or understand aspects of the larger concept of phonological awareness, such as rhyming. Furthermore, Sam did not appear to easily form stable visual representations and showed difficulty in retrieving previously taught specific phonemic information even within the same

day. The phenomena may have been due to a learning disability or due to inattention or to factors associated with ASD. Moreover, he did not easily infer cause and effect or relationships of one item to another, had difficulty in application of new skills, and had difficulty generalizing to alternative contexts. Finally, Sam expressed no interest in learning to read. He actively resisted any attempts to be taught academic content and had meltdowns when requested to perform any instructional tasks.

In order to teach Sam to read, three basic issues needed to be addressed: (a) behavior and attention, two separate but related factors, (b), motivation (c) and method of reading instruction.

Description of the Intervention Program

Qualifications of Interventionist

The interventionist was a reading specialist who held a Ph.D. in Special Education. She had 30 years of teaching experience with children with reading disabilities and children at-risk for school failure. She had taught elementary, middle, and high school. She had been trained in Direct Instruction (Gersten & Keating, 1987) and behavior management. Furthermore, she supervised college practicum students in special education who were learning to teach using Direct Instruction materials. She provided reading instruction using Reading Mastery Fast Cycle (Engelmann & Bruner, 2003).

Dealing with Behavior, Attention and Motivation

Because Sam was highly distractible, it was necessary that the interventionist provided one-to-one instruction in a quiet spot with minimal auditory or visual distractions. Initial lessons were no more than five to ten minutes in duration, but occurred several times during the day for short, focused instruction. In order to increase motivation, an extrinsic reinforcement system was used. The purpose of the extrinsic system was to develop a positive attitude toward reading while building competence that could ultimately transfer to internal motivation. Sam earned points for attention to task, working hard, and accuracy. Points applied to either a small toy or preferred activity at the end of each lesson. Specific verbal praise was paired with the points throughout the lesson to provide ongoing motivation.

Instructional Program

Reading Mastery Fast Cycle (Engelmann & Bruner, 2003) is often used as a reading intervention in special education resource rooms. It is a code-based, or synthetic phonics, approach that is explicit and systematic. The program incorporates an orthography that allows children to distinguish the 40 unique phonemes in the English language. Furthermore, Reading Mastery is explicit in that the teacher models all instruction, provides guided practice, and teaches to mastery. It is highly scripted for the purpose of providing consistent instructional language, allowing students to attend to the content of instruction instead of attending to ambiguous language that can interfere with conceptual understandings. Reading Mastery is interactive, requiring student active responses at a high rate.

Reading Mastery Fast Cycle (Engelmann & Bruner, 2003) is systematic, meaning it begins with instruction that is easiest and logically builds to more difficult concepts. It provides a full array of letter-sound correspondences, diagraphs, and blends (National Reading Panel, 2006). Reading

Mastery begins with simple phonological awareness tasks and then links phonemes to graphemes. Initial tasks include blending and segmenting words. Regular word patterns are taught and practiced in order of degree of difficulty. Additionally, common irregular words (e.g., was, said) are introduced early on in order for children to combine words into sentences. Increasingly difficult decodable text is used for practice as concepts and multisyllabic words are introduced. Multiple supports for reading are integrated into the program and then gradually eliminated. For example, orthography is gradually faded until letters and letter combinations appear as they do in normal text.

Description of the Teaching Process

The following describes what might best be termed as a series of stages in the instructional process. The description is not meant as a prescribed sequence of steps, but shares with the reader the evolution of the process, based upon Sam's needs as they changed across time

Beginning Stage

In the first stage of instruction, the interventionist implemented Reading Mastery Fast Cycle (Engelmann & Bruner, 2003) along with behavior management strategies that used points and specific praise as types of reinforcement. Behavior management was important because Sam initially exhibited inattention and resistance to reading, perhaps due to the difficulty of tasks. Sam did not attend to individual sounds in words and did not link or remember the relationship of sounds to letters.

Short instructional sessions (i.e., approximate 5 to 10 minutes) were repeated up to three times throughout the day. Instruction began with simple phonemic awareness activities, helping Sam to identify individual sounds in words. Next the most common sounds of letters were introduced with one new sound presented about each week of instruction. In the beginning, Sam had difficulty remembering the sound of a previously taught letter when another was introduced. Consequently, he was unable to build upon the knowledge of sounds in order to form words. Sam slowly gained competence after repeated trials.

In order to keep Sam motivated, reinforcements were changed almost on a daily basis. Additionally, the instructor used Premack's Principle (Roeckelein, 1998) (i.e., "first-then" statements), which was sometimes effective in maintaining his attention for a few extra minutes of instruction. After several weeks, Sam gained some competence in blending letters to form short regular words (e.g., mad, bed, am, rug, mat, sat, sit, lamp). Next, the interventionist linked words into short sentences and provided a purpose for Sam to sound out words and to develop automaticity. For example, the interventionist organized a treasure hunt with clues incorporating words that Sam knew. By following the clues, Sam ultimately received his prize. Progress was steady, but at a much slower rate than other children with reading disabilities alone. Instruction continued for approximately 60 days. The intensive schedule of intervention was necessary because any break in instruction resulted in significant loss of skills, even from day to day.

Second Stage

Due to the limited availability of behavioral therapists in the service area, Sam did not begin Applied Behavior Analysis (ABA) with a board certified ABA therapist until 60 days after

academic intervention began. As a result of teaming academic instruction with the added support of a qualified ABA therapist, Sam's progress in reading increased. This assistance of the ABA therapist enabled the interventionist to focus solely upon instructional procedures. The therapist was able to allocate reinforcement at a more appropriate ratio. Consequently, the behavior therapist effectively prevented most meltdowns, maintained attention for longer periods of time, and reduced high levels of activity during reading instruction. Sam was able to accomplish at least one full Reading Mastery Fast Cycle (Engelmann & Bruner, 2003) lesson per session. Reading lessons quickly progressed to incorporating sound combinations, multiple irregular words, and practice in decodable text, requiring skills that Sam had mastered.

Third Stage

After an additional 30 days of instruction with ABA therapist's support, Sam's family secured pharmaceutical intervention for his attention and behavior symptoms. Suggestive of the benefit of medication, the frequency and duration of Sam's meltdowns decreased both at school and home. Sam sustained his attention for much longer periods and demonstrated an increased willingness to attempt even more difficult tasks. The therapist continued providing ABA at the same quality and quantity of support as in Stage Two. Sam responded even more positively to the effects of planned reinforcements, allowing the variable ratio of behaviors to reinforcement to be gradually increased. Sam's automaticity with word recognition improved significantly, and he demonstrated a greater ability to retrieve sounds and words. Sam began to generalize words to his environment, even reading simple roadside signs.

Fourth Stage

Reading instruction continued through the summer months. About the middle of first grade, a full nine months after initiating intervention, Sam's skills had improved to the point of decoding regular words and some multisyllabic words taught within Reading Mastery Fast Cycle (Engelmann & Bruner, 2003). He recognized sight words and comprehended information he read at grade level in the program. The ABA therapist faded out the external reinforcements. Sam came to his reading lessons without conflict and no longer needed concrete rewards. Verbal praise that was specific for "good reading" was continued.

Sam then began to participate in a small reading group at school. The school's instruction focused upon memorization of sight words that were mostly irregular and upon predictable text. This was in direct contrast to the method of Direct Instruction (Gersten, & Keating, 1987) that the interventionist utilized. Even though Sam, at first, gained little academic benefit from the school-based reading instruction, his social skills did improve through participation in the small group activity. Sam continued to make progress in Reading Mastery Fast Cycle (Engelmann & Bruner, 2003). In fact, he regularly applied the sound-out strategy to words in novel contexts. Sam's reading skills and his motivation to read improved to the extent that extrinsic reinforcement and management of difficult behaviors were no longer necessary. As a result, the ABA therapist no longer participated in the reading lessons.

An Update on Sam's Reading Progress

Even though Sam made significant progress in the development of his reading skills, it was not all roses. He still had difficulty intuiting relationships and generalizing concepts to new

environments; therefore, reading instruction for Sam then focused upon comprehension. A significant milestone for Sam was that he had begun the self-teaching process of reading (Share, 1995). He decoded most words within an authentic context and read above grade level. Despite the combination of difficult behaviors, inattention, lack of phonological awareness, and limited auditory and visual memory as barriers to learning to read, Sam came a long way.

Discussion

The important and obvious limitation to this study is that it addresses only one child and one package of interventions. The most difficult aspect of doing any type of research with children with autism, especially for children with autism and associated disabilities is the small number of participants available for research that can lead to generalizable conclusions and the wide, as well as unique, variations of autism and other disabilities manifested on an individual level.

The purpose of this article was not to prescribe a definitive process or a specific instructional program or even one strategy for children with ASD. Instead, our goal was to share one package of instructional and behavioral supports that were successful with one child with a specific learning profile as suggested by Carnahan et al. (2009). Sam presented with a multitude of symptoms (e.g., inattention, high levels of frustration, hyperactivity, resistance to instruction, need for sameness, and weak phonological processing) associated with his developmental disabilities. In turn, we responded to each symptom with a targeted intervention that was already well supported by established research (e.g., collaborative teaming with ABA therapist, medication, explicit instructional methods, intensive instructional schedule), in effect creating an integrated treatment package tailored to the needs of one child.

It may be thought that no one single intervention was responsible for Sam's progress in learning to read. Instead, the amalgam of the various supports and interventions were believed to account for his academic gains. Hence, an important concept for educators to appreciate is that there is no one magic bullet for instruction for a child with a complex array of learning challenges. An explicit, systematic program is not likely to yield positive results by itself. Moreover, behavioral interventions and/or medication are not likely to teach a child how to read. When a mix of symptoms of underlying neurodevelopmental disabilities are present, a comprehensive approach to academic instruction, specifically reading instruction that targets all those symptoms is warranted.

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High Stakes Testing in the 21st Century: Implications for Students in Special Education

Lola Gordon, Ed.S.

Abstract

High-stakes testing has been a part of American education since its inception. The laws that govern the use of high-stakes tests include language that mandates the inclusion of students in special education. These laws play an influential role in the new large-scale assessments aligned with the Common Core State Standards (CCSS). The assessments being implemented in the current 2014-2015 school year include embedded and locally provided accommodations for students with a documented need. For students with the most severe cognitive disabilities alternate assessments are available aligned with the CCSS. The implications of these assessments and the role they play in crucial factors pertaining to students in special education requires additional research. Specific areas for research should include how high-stakes tests can be useful in identifying specific needs, accommodations, and strategies for learning for students in special education, and the role test scores play in retention and dropout rates for this population.

High Stakes Testing in the 21st Century: Implications for Students in Special Education

Throughout history standardized tests have been used to gather data on student achievement. Results from standardized tests are used to measure individual performance of students, schools, and districts, as well as to compare across students, schools, and districts (Salvia, Ysseldyke, & Bolt, 2010). Until recently many students with disabilities were excluded from these tests, or were required to participate inappropriately. Over the past several decades, however, mandates have been implemented which govern how students in special education participate in high-stakes standardized testing, with a focus on appropriate and unbiased participation. The development of new large-scale assessments aligned with the Common Core State Standards (CCSS) addresses issues pertinent to students in special education. Considerations for the use of accommodations and alternate assessments utilizing the principles of universal design have been made, aimed at providing equal access to appropriate assessment opportunities for all students in special education. As students with disabilities begin participating in these new assessments, data gathered about student performance should provide information necessary in identifying the specific needs of students in special education, particularly in relation to the use of appropriate accommodations. Also, examining the role that high-stakes test scores play in retention and dropout rates for students in special education, and whether or not those rates are affected by the new assessments will be important.

Background

The testing of students has a considerable history in American education. Beginning in the early 20th century standardized tests began being used to measure student achievement in basic school subjects. In 1965 the Elementary and Secondary Education Act (ESEA) was created which included a requirement for testing for accountability purposes. Connections between declining

test scores in literacy and math and joblessness in the 1970's led to major reforms in the 1980's. The 1983 report *A Nation at Risk* painted a bleak picture of student performance on academic skills. A new emphasis was on the high-stakes attached to tests, even though the data at the time suggested that little improvement would result from high-stakes alone (Kaestle, 2013). The development of content and performance-based standards with aligned assessments came about in the 1990's, which led into the 21st century, and in 2001, the reauthorization of the ESEA, titled No Child Left Behind (NCLB) placed a high level of importance on frequent administration of high-stakes tests for the purpose of accountability. With rewards and sanctions based on student performance, NCLB mandated that all students, including students in special education, be included in the accountability requirements (Kaestle, 2013).

Prior to NCLB, federal provisions concerning accountability practices were limited in their ability to regulate the assessment of students in special education. NCLB required that most students in special education participate in high-stakes testing aligned with grade-level standards and those with significant cognitive disabilities take an alternate assessment that would be included in the accountability requirement (Salend, 2008). In 2009 the American Reinvestment and Recovery Act was implemented, which included a grant program titled Race to the Top that provided funding to states that adopted common academic standards and assessments aligned with those standards. These common academic standards came for most states in the form of the Common Core State Standards (CCSS) and two aligned assessments were developed by the Smarter Balanced Assessment Consortia (SBAC) and the Partnership for Assessment of Readiness for College and Career (PARCC). In addition, there are two consortia that designed alternate assessments, Dynamic Learning Maps (DLM), and the National Center and State Collaborative (NCSC) for students with severe cognitive disabilities. Test-based accountability has continued to play a vital role in education, and it is more persistent than any other education policy, despite continuing dissatisfaction with student performance (Linn, 2013).

Statement of Problem

Test-based accountability contains the assumption that the tests used are accurate measures of student achievement and can be used as predictors of future success in college and careers. Underperformance on high-stakes assessments has been seen through several factors, including performance on international assessments, the increasing numbers of students needing to take remedial, non-credit-bearing coursework in college, complaints from employers about a lack of preparedness of high school graduates, and the continued prevalence of students dropping out of school (Linn, 2013). Students in special education typically require accommodations to participate appropriately, and the new assessments were designed with consideration of accommodation needs. Whether or not they will be accurate in identifying appropriate accommodations and learning strategies will require more research. In addition, with concern over the dropout rates of students in special education, the question of what role the new assessments will play in changes to those rates will need to be considered.

In the area of needs, accommodations, and strategies, the removal of obstacles that have prevented accurate evaluation of the performance of students in special education was a necessary step in improving testing practices (SBAC.org). When administered appropriately accommodations help to ameliorate the effects of the individual characteristics of students in special education that limit their ability to demonstrate achievement (Geller, Alonzo, Monegan,

& Tindal, 2007). Throughout the history of high-stakes testing, questions regarding what types of accommodations are appropriate, who is qualified to make decisions about accommodations, and how classroom-based accommodations influence the performance of students in special education on high-stakes tests have persisted (Geller, et.al., 2007). Concerns over non-standard administration of assessments threatening validity has prompted more attention being given to the appropriate use of accommodations and in determining their capacity for providing the types of information needed to guide instruction (Fuchs, Fuchs, & Capizzi, 2005). Attention must also be given to the small percentage of students who require alternate assessments to be appropriately and accurately evaluated. Regulations now mandate that students who cannot participate in the regular assessments be offered alternate assessments, however, only 1% of proficient or advanced scores from the alternate assessments are allowed to be counted toward accountability ratings (Slocum, 2005). If the alternate assessments that have been developed prove to be effective in identifying appropriate interventions for students with severe cognitive disabilities the possibility exists that a larger percentage of students taking alternate assessments will score at higher levels, which may lead to a needed change in the 1% rule.

The correlation between scores on high-stakes tests and retention and dropout rates in high school has been documented. The question to be considered is what type of impact the new assessments will have on these rates. Grade promotion tied to performance on high-stakes tests has become more common over the last decade, and the increase in dropout rates due to the emphasis on these types of tests is an unintended consequence of testing. Increasing frustration with school and a lowered academic self-concept tied to scores on high-stakes assessments is a factor in dropout rates (Allensworth, 2005). Most states now require all high school students to pass a general skills exam in order to graduate. There is question as to whether or not the new assessments aligned with the CCSS will serve as exit exams, and for students in special education the question is of particular importance. The wide graduation-rate gaps in many states between students with disabilities and those in regular education is well documented. The most recent U.S. Department of Education data, for 2011-12, shows a four-year graduation-rate gap that ranges from a high of 43 percentage points in Mississippi to a low of 3 percentage points in Montana (Samuels, 2014). Students in special education who experience failure or see little chance of passing assessments and graduating often decide to drop out (Thurlow, Sinclair, & Johnson, 2002). Currently, research does not provide definitive answers to these concerns - regarding whether the new high-stakes assessments will result in growing numbers of students in special education dropping out.

The purpose of high-stakes testing is to improve outcomes for all students by improving ongoing progress monitoring and instruction, but the assessment outcomes need to correspond with real improvements in student achievement (Slocum, 2005). The new wave of computer-based assessments is just beginning to be implemented. The information they will be able to provide for students in special education and the effect they will have on dropout rates will be seen in the coming years as the assessments are evaluated for validity, reliability, and effectiveness (Stephens, 2014).

For students in special education the issue of participation in high-stakes testing has been contentious. The Individuals with Disabilities Education Act (IDEA) and NCLB laid the foundation for the accountability of students in special education by requiring states to include

this population in all state and district assessments and to report their participation and performance (US DOE, 2012). These mandates led to a wider use of accommodations and alternate assessments to allow students in special education to more appropriately participate (Linn, 2013). IDEA 2004, heavily aligned with NCLB, requires that the Individualized Education Plan (IEP) detail specific accommodations students would require for testing, and states that students in special education are no longer exempt from state and district assessments (Katsiyannis, Zhang, Joseph, & Jones, 2007). Unintended consequences of these efforts included an overabundance of test preparation that led to a narrowing of the curriculum, and in the years since NCLB a call for more rigorous standards and expectations along with aligned high-stakes testing (Linn, 2013). In response to these and other failures of the NCLB, the Common Core State Standards (CCSS) were developed, and implementation of the standards began in 2010.

The CCSS are intended to be rigorous in promoting higher-order thinking and problem-solving skills, and students who master the CCSS in high school are thought to be well prepared for college and career (Linn, 2013). Students in special education are held to the same content and grade-level standards and are taught with an emphasis on the use of research-based instructional practices. Funding for the two assessment consortia, SBAC and PARCC, was provided from the federal Race to the Top initiative to develop assessments aligned with the CCSS. Initially 44 states signed on to adopt the standards; currently, 23 of the 44 states have sought legislation to repeal, delay, or withdraw from their testing consortia (Stephens, 2014). While states initially felt the idea of common academic standards and standardized assessments directly aligned with those standards was a positive proposition, the states that have withdrawn or are seeking withdrawal cite concerns over the assessments being rushed into implementation without a strong research base supporting their effectiveness. And challenges still exist for students in special education that are not addressed with the implementation of the CCSS or the aligned assessments. Many students in special education require roughly 30-40 more days of instruction to have an equitable opportunity to learn than their peers, and with the technology associated with the new assessments there may not be enough time for students to be taught the standards they will be assessed on (Nirvi, 2012). An additional issue relates to the concern that even after over a decade of comprehensive education reform policies whose purpose was to hold everyone accountable for student performance and outcomes, there are still unacceptably high rates of students in special education dropping out of school (McNeil, Coppola, Radigan, & Heilig, 2008).

The shift in accountability practices since NCLB has raised different perspectives on whether the use of high-stakes assessments for all students regardless of ability is appropriate. Proponents of the CCSS and the next-generation assessments focus on aspects such as the benefit of more continuity among states, that agreed-upon standards will lead to better outcomes for students with increased preparedness for college and careers, and that the assessments were designed utilizing the principles of universal design. Universal Design is a way to provide assessments with tools built into the system, minimizing the need for other accommodations. They also argue that the participation of all students ensures that school districts are responsible for everyone, not just the highest achievers (Salvia, Ysseldyke, & Bolt, 2010). Prior to provisions in NCLB and IDEA the primary source of accountability for students in special education was the IEP, but IEP goals were often not standards-based, making them less reliable and valid as measures of

achievement (McLaughlin & Thurlow, 2010). However, the mandate for all students to be tested according to the same achievement standards is controversial. Opponents of the current reforms cite concerns over too much class time being spent on practice tests, and that assessment policy will drive instructional practices, which has been detrimental for all student learning. There is also concern over educators diverting resources away from students whose scores may not be counted, such as those with severe cognitive disabilities (Salvia, et.al, 2010). Concerns also exist over the achievement gap broadening for those students who are not tech-savvy. A question for the future will be in determining the reliability of the inferences made from high-stakes assessments.

Review of the Literature

The issue of how the results from high-stakes testing can be used to make meaningful decisions for students in special education is well represented in the literature. The question of the correlation between high-stakes tests and dropout rates is also represented in the literature, but both issues require a much larger research base. Research findings about the effects of standardized test-based accountability have been both promising and disappointing. The practices of extensive test-preparation and frequent interim testing as a result of accountability pressures often do not serve the population of students in special education effectively (Ed. Policy, 2009).

The new assessments, including the alternate assessments, have been designed using principles of universal design. Proponents of the new assessments cite components such as universal tools, designated supports, and digitally embedded and locally provided accommodations as being effective tools for not only making the assessments meaningful for all students, but also in providing the necessary information regarding the supports students require for learning (SBAC.org). Components of the assessments that are praised by proponents include the idea that the digital delivery system helps to broaden the availability of tools and accommodations and creates a less restrictive testing environment (SBAC.org). Opponents have concerns about the way accommodations are applied, including the over- identification of accommodations, as well as the choice of specific accommodations that may run counter to the fundamental goal of using them to begin with (Geller, et.al., 2007). These issues may become more prevalent with the new testing format as accommodations embedded in the test delivery system are easily accessible and the tendency to provide more than what is needed may become common. If high-stakes tests are going to provide useful information for guiding students in special education then the choices about accommodations need to be made carefully and consistently, they need to be used in the instructional setting, and they need to be individually-determined, not disability-specific (Salend, 2008). Most importantly, accommodations should be continually evaluated for validity, usefulness, and fairness. The balance of standardization and individualization is an issue that frequently comes up in the literature about this topic and is one of the most crucial factors when planning participation in high-stakes testing for students in special education. A study of the students with disabilities (SWD's) subgroup published in 2012 by EDfacts, a United States Department of Education initiative to collect and place K-12 performance data at the center of policy, management, and budget decisions reported an achievement gap that exceeded 30 percentage points between SWD's and typical peers in 2007-2008. This has led to greater attention being placed on the appropriateness and effectiveness of the types of supports that are

in place for students in special education when participating in high-stakes testing, and research will need to continue to determine how high-stakes tests can be useful tools in providing the types of information about students needed for effective instruction.

Research from the past decade shows that retained students are more likely to drop out of school due to lowered self-efficacy, compounding feelings of failure, and a negative attitude toward school (Allensworth, 2005). The question about there being a connection between high-stakes testing and dropout rates is one that has been examined and will require continued research with the implementation of new assessments. For students in special education the dropout rate is twice that of other students, and they are among the lowest performing students on high-stakes tests (Thurlow, Sinclair, & Johnson, 2002). The U.S. Department of Education, Office of Special Education Programs reported in 2006 that 37.6% of all students with disabilities dropped out of school at age 14 or over. Of that 37.6%, 61.2 % were students with EBD, 35.8% were students with a speech/language disorder, and 35.4% were students with a learning disability.

The role that high-stakes testing may play in these dropout rates is difficult to determine. One study, published in 2008 looked at the extraordinarily high rates of dropout under Texas's system of high-stakes, test-based accountability. Since the model for NCLB came from the Texas system the correlation between the Texas system and high dropout rates may be predictive of the rest of the U.S. under NCLB. The study showed systematic incentives to take administrative action that encouraged low-scoring students (the lowest scoring being students in special education) to drop out or be retained to keep their scores from counting toward accountability, and a relationship between the dropout of increasing numbers of students and rising accountability ratings was established (McNeil, et.al., 2008). And, as reported by McNeil, et al. (2008), the problem was not limited to Texas. Other published studies found higher rates of retention and dropout in states and cities that have instituted more stringent graduation requirements and exit exams. Data from the National Educational Longitudinal Survey found that graduation exit exams increased the probability of dropping out among the lowest-ability students, typically students in special education (McNeil, et.al, 2008). By 2010, 28 states had implemented exit exams and 24 of the states used these exams for meeting graduation accountability mandates under NCLB. A number of people have filed lawsuits that have challenged the use of high-stakes tests as graduation requirements and legal issues arise for students in special education as the use of these exams runs contrary to the provisions set forth in IDEA (Yell, Katsiyannis, Collins, & Lasinski, 2012). The role that these exit exams play in students in special education dropping out requires further investigation. How the new assessments that are aligned with the CCSS will address this issue has yet to be determined.

Questions/Hypotheses

The new large-scale assessments aligned with the CCSS have been developed to include more accessible accommodations for all students, and are claimed to be more appropriate as they are aligned with the standards that students are required to meet through classroom instruction. However, the construction of the assessments using principles of universal design does not guarantee a more authentic testing experience for students in special education, nor does it guarantee a decrease in dropout rates. The possibility that the new assessments may exacerbate

the present issues surrounding accommodations and dropout rates due to the increased pressure for performance exists. Continued research is needed in both of these areas.

In the area of accommodations several factors need to be considered when determining if the assessments will have a positive impact on identifying appropriate accommodations to be used in both instruction and testing. There is an absence of a firm research base in determining accommodations for students in special education (www.sbac.org). In addition, the tools and accommodations provided in the new assessments were implemented without a thorough amount of baseline data being collected (Lane, 2013). Additionally, results of pilot tests were not used to inform practitioners or families about student performance or other factors, such as difficulties with the testing experience. These types of issues may conflict with both NCLB and IDEA compliance and result in a disproportionate representation of which students receive accommodations, and may interfere with the decision-making process (Salend, 2008). The Smarter Balanced consortium has stated that since the digitally-delivered tools and accommodations are new, additional research is needed as part of the validation process for the assessments. One concern over the accommodations provided is that rather than being tools that allow students in special education to appropriately demonstrate their abilities they may instead pose barriers because of the amount of technological knowledge required to navigate them (Geller, et.al, 2007). Research should include factors related to specific accommodations and their effectiveness in allowing students in special education to use them appropriately to demonstrate achievement. A proper research base for these components will allow for more effective decision-making regarding accommodations and strategies used in both instructional and testing domains.

Determination of a connection between high-stakes testing and retention and dropout rates will require a detailed examination of the factors that are involved. One factor, that retained students are more likely to drop out due to lowered self-efficacy and a negative feeling about school, is an issue that has been clearly documented (Allensworth, 2005). Recurring failure in school is one of the most significant predictors of dropout. Because the dropout rate of students in special education is twice that of other students this population is at greater risk of experiencing consistent failure and is more likely to give up on school (Thurlow, et al., 2002). Proponents of the new assessment system believe that since there is a stronger connection between what students are exposed to in their instruction and what they are assessed on there will be a clearer purpose to the testing, and higher standards will increase students motivation to do well (Linn, 2013). However, opponents will cite those same factors as reasons that more students will experience failure. Because the new standards are more rigorous, students in special education may experience more difficulties in learning, especially if the accommodations provided are not useful or effective, and since the stakes are so much higher for performance, struggling students may be more inclined to give up. The heightened expectations and new performance standards will result in many students, particularly those in special education, being identified as not yet ready for college or career (Jones & King, 2012). The other factor related to dropout rates tied to high-stakes testing is the systematic encouragement from administration for low-performing students to be retained or to drop out so their scores do not negatively impact accountability ratings (McNeil, et al., 2008). The lowest performing students on high-stakes tests are students in special education, and these students may end up being the targets of this process. Further

research is needed to uncover these types of practices in schools so that equity in educational opportunities can be realized for students in special education.

Conclusion

High-stakes testing has been a strong presence in American education, particularly in the last few decades. For students in special education, high-stakes testing is not simply a requirement to be fulfilled, but often a determinant of their future. High-stakes assessments administered in the past were not fair or accurate representations of the abilities of students in special education. With the advent of the Common Core State Standards and the aligned assessments, changes have been made to the assessment process that aims to provide more and better access for students in special education so that the results of high-stakes tests can be considered accurate and fair representations of the abilities of this population. The utilization of universal design is meant to avoid the previous and ineffective practice of trying to retrofit tests for students in special education (www.udlcenter.org). However, many questions regarding the appropriate use of accommodations and how the testing process itself can provide useful information to guide classroom instruction for students in special education have been proposed (Salend, 2008). There is needed research in the area of accommodations, and the results from the first round of next-generation assessments will need to be examined to identify specific components of the assessments involving accommodations and accessibility tools. One method for gathering this information should include student response data in which students in special education are given an opportunity to discuss their experience using specific tools and accommodations.

The issue of retention and dropout for students in special education and how high-stakes testing plays a role is an area that has been of concern in education for some time. Students in special education are often the ones who perform lowest on high-stakes assessments which puts them at greater risk of either being retained due to their poor performance or dropping out. Research shows that students who experience consistent failure are at the highest risk for dropping out, and students in special education are typically the ones to experience the most failure in school (Thurlow, et al., 2002). The new assessments, while designed to attempt to meet the needs of a broader range of students, may contribute to higher rates of dropout as students are identified as not being on-track for college and career. As the assessments are implemented data regarding the outcome on retention and dropout rates will need to be carefully examined, as well as the specific contributing factors.

High-stakes testing will continue to be a part of the American educational landscape. Having an adequate research base regarding the appropriate use of accommodations in instruction and testing, and researching and identifying the factors that contribute to the retention and dropout rates of students in special education is required. The role that high-stakes testing plays in these specific areas requires further research if they are going to be considered useful and valid aspects of the educational experience for students in special education.

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Identifying and Correcting Barriers to Successful Inclusive Practices: A Literature Review

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Abstract

The inclusion of students with disabilities in the general education classroom is one of the most debated subjects in the field of education today. A review of the literature revealed that while inclusion has been shown to benefit children who receive special education services alongside their non-disabled peers, there are a number of barriers that prevent the practice and procedure of inclusion from being successfully implemented. Lack of teacher training, ineffective instruction, and overall teacher attitudes have been identified as the most prominent barriers to the inclusion process and suggestions for future study indicate that more information to determine the extent to which disabled children are academically, socially and emotionally impacted by those barriers.

Identifying and Correcting Barriers to Successful Inclusive Practices: A Literature Review

The study of the educational experiences of special education students has been an area of focus for many studies. Researchers are interested not only in finding ways for students with disabilities to be included in the general education curriculum and to be successful in academics, but also in finding the implementation and development of policies, strategies and other academic support systems that promote it. Cushner, McClelland, and Safford (2012) posits that, inclusive education refers to the practice of including another group of students in regular classrooms: students with physical, developmental, or social-emotional disabilities, and those with chronic health problems (p. 403). Education in a least restrictive environment states that students with disabilities are to receive their education in the general education classroom setting unless the nature of their disability prevents them from being adequately serviced in a general education classroom setting (IDEA). The inclusion model requires general education and special education teachers collaborate to meet the needs of all students in their classrooms but general and special education teachers are unaware of their collaborative roles in an inclusive environment (Nichols & Nichols, 2010).

There has been a push to move all students with disabilities into general education classrooms but several problems have been identified and investigated in order to determine why inclusion does not succeed in public schools. Barriers to successful inclusive practices have been identified as lack of teacher training, ineffective classroom instruction and teacher attitudes. Each of these elements are critical in the overall progression of any classroom, but becomes even more important when the subject of inclusion is integrated into the equation. Because special education students often require accommodations and modifications, instruction needs to address student learning differences as mandated by several federal laws, including the Individuals With Disabilities Act (IDEA).

IDEA is the federal act that offers guidelines for the education of students with exceptionalities. In addition, the No Child Left Behind (NCLB) legislation supports the implementation of IDEA practices in regular education classrooms. According to both laws, teachers who educate students with disabilities should (1) be considered highly qualified, (2) provide accommodations and modifications as required by the Individualized Education Plan (IEP), and (3) instruct students in the least restrictive environment. (See Figure 1 Literature Map).

Highly Qualified

According to the language of NCLB, a highly qualified teacher is one that is fully licensed by the state and endorsed in the subject area with no licensure requirements waived on any basis. However, many teachers are finding themselves unable to meet these standards when it comes to inclusion of students who require special considerations in regular classroom environments. The problem of inadequate teacher training was explored in the article, "Alternative Route Programs for Certification in Special Education: Program Infrastructure, Instructional Delivery, and Participant Checklist." (Rosenberg, Boyer, Sindelar, & Misar, 2007), where it was determined that the need for a reformation in teacher preparation is evident, there is little evidence to support how such preparation would assist teachers in educating students with disabilities. (Rosenberg et al., 2007). Furthermore, little is known about programs that purport to offer alternative routes to meeting the requirements of professional development for prospective education teachers. The study conducted by Rosenberg et al. (2007) sought to compare the prevalence of alternative route programs to the shortage of special education teachers. The number of teachers who were not fully certified was correlated with the number of AR programs, with a statistical significance of .01 and a national average at 12.5%.

Keigher, A. (2010) found that 49 states report a shortage of special education teachers/related service personnel for 2013-2014. Shortages of fully certified personnel and unfunded positions impede the ability of students with disabilities to reach their full academic potential and hinder the work of districts to prepare all students (Futernick, 2007). Many see the shortage of special education teachers as an issue that directly affects the quality of teachers who are working in the public school systems. According to the Statistics found in Special Education Personnel Shortages Factsheet, special education teachers leave the teaching profession at nearly double the rate of their general education colleagues (12.3% vs. 7.6%). Furthermore, a report from the Bureau of Labor Statistics, US Department of Labor (2009), the demand for special educators is expected to increase by 17% from now through 2018. If that is not disturbing enough, 98% of the nation's school districts report special education teacher shortages (McLeskey, Tyler and Flippin, 2003, 2004)

In a study first conducted by Boe, Cook, Bobbitt, and Terhanian (1998) over a decade ago, it was found that of the 50, 000 teachers investigated, there was a chronic shortage of teachers with full-licensure (as cited by Nougaret, Scruggs, & Mastropieri, 2007). The research documented that, even today, over a quarter of the teachers employed in school systems across the country either lack full licensure or do not meet full requirements in the area in which they teach. Moreover, there was evidence from the study that traditional teacher licensure programs improve teacher competence. This was particularly true when traditionally trained teachers were compared to teachers who received little or no systematic training (Nougaret et al., 2007).

Because little information existed that showed comparison rates of special education teachers under similar circumstances, the authors chose this area as the focus of their research.

Likewise, the concept of teacher training applies to both pre-service and professional development. Paulsen (2005) contended that pre-service teachers need explicit instruction and practice to be able to implement strategies effectively with their students. Not only is it important to deliver effect, explicit instruction to teachers seeking to enter the field, it is also equally important to provide opportunities for these teachers to practice these skills through their coursework or in field-based experiences (Paulsen, 2005). The author suggested that explicit instruction be delivered in the form of advance organizers, modeling, guided practice, scaffolding, and review. Furthermore, it was concluded that pre-service teacher candidates would be more masterful educators if they were taught explicitly how to implement effective instructional strategies. Although the preliminary data was collected using elementary school students, the results indicated that explicit instruction and practice can uniformly be applied to secondary students with equal or comparable success.

Effective Teacher Instruction

Teachers who are equipped with instructional choices are less frustrated and more productive in the classroom (Baker 2005). One choice is differentiated instruction. Differentiating instruction to meet the needs of exceptional students can prove difficult. Accommodations and modifications should be specific to the learning needs of each student while the teacher maintains the overall focus of the general education curriculum. McDonnell, Johnson, Polychronis, and Risen (2002) found that while there is potential of positive outcomes in inclusive education, designing and implementing such instruction can be a challenge for teachers in general education classes. Despite this acknowledge, it is conceded that embedded instruction has proven beneficial for special education students in acquiring target skills. The authors supported their research by suggesting that their findings are consistent with previous research on embedded instruction for students with severe disabilities and preschool children with disabilities.

Prior to the passing of federally legislation, exceptional students did not undergo a smooth transition into mainstream classrooms. Many dropped out of school by the time they reached high school while others saw little, if any progression in academics. Once federal mandates were introduced, school systems slowly began to actively participate in creating plans for how special education students would be integrated into mainstream classrooms. According to Berry (2006), despite the challenges general education teachers face in differentiating instruction, these teachers should be prepared to accommodate and support their (exceptional children) participation.

Students with exceptionalities have been found to struggle with handwriting, spelling, vocabulary, sense of audience, and text structures. Explicit instruction in these areas is recommended, with the teacher providing frequent and extended opportunities for students to practice improving their skills in the areas in which they struggle. Learning should be both a social opportunity as well as an opportunity to acquire knowledge. The study emphasized the

importance of teacher strategies being linked to their unique pedagogical perspectives (Berry, 2006).

Teacher Attitudes

Teacher perceptions is another element that has been identified as a possible barrier to successful inclusive practices. Whether or not a teacher supports the idea of inclusion into mainstream classrooms can determine how well the teacher implements practices that will promote the learning of all students. Teachers' negative attitudes towards students with disabilities lead to low expectations from their students which result to decreased learning opportunities and low academic performance (Carrington & Brownlee, 2001). According to Hunter-Johnson, Cambridge-Johnson, and Newton (2014), some teachers refuse to instruct the students who are characterized as slow or struggling and would rather focus on the more independent workers often referred to as the high flyers. The role of teachers in inclusive education is a crucial one; it is imperative that their perceptions towards this practice are assessed so that necessary elements are implemented in an effort to address both the students' and teachers' needs (p. 2).

Watnick and Sacks (2006) investigated this issue in their article, "A Snapshot of Teacher Perceptions on Full Inclusion in an International Urban Community: Miami-Dade County, Florida." Like Berry (2006), Watnick and Sacks (2006) pointed out that successful inclusive programs not only focus on curriculum, but also on social interactions as well. Those who view inclusion less favorably usually did not provide learning opportunities that meet the needs of all special education students. Prior research about the effectiveness of three classroom models found that after a year, achievement outcomes for students with disabilities were unsatisfactory.

Three models of inclusive practices were identified as the (1) external model, (2) internal model, and (3) specialized support model. Schools used for the survey were randomly selected, but the researchers knew the respondents. The study utilized surveys to track teacher responses to questions about their practices in the classroom. Most teachers who responded at all to the survey said that they practiced some sort of inclusive practice. (Watnick & Sacks, 2006,). Teacher attitudes and desire to participate play a key role in the effective implementation of a full inclusion program. The teachers who found inclusion to be a favorable practice found that students' academic progress was more positive as a result of increased interaction with their regular classroom peers. The identified factors that influence the success are: (1) the student participants selected for the study, (2) school and community support, and (3) teachers training.

Teacher attitudes were further explored by J. Kossewska (2006), who pointed out that the key to mainstreaming is the attitude of the teachers of the child who is different. The findings in various studies concluded that attitudes held by both regular and special educators towards students with disabilities determine success or failure of inclusion. The study supports previous statements that assert that teachers who favorably few inclusion see more positive results in the accomplishments of their special education students. Kossewska's research even found a causal relationship between gender and teacher perceptions, with male teachers having more negative attitudes about inclusion than females. However, a subsequent study found the opposite to be true. Not only were males found to have more positive attitudes about inclusion, but they tended to have more confidence in teaching children with disabilities.

Studies administered to determine the effects of teacher attitudes on inclusion have been separated into several categories: (1) acceptance/rejection issues, (2) teachers' tolerance and effectiveness, (3) teachers individual differences and personality characteristics. Secondary education teachers with neither contact with exceptional children nor train in special education had less positive attitudes about mainstreaming. Furthermore, there was supporting evidence that teachers in secondary schools were less accepting of inclusion than elementary school teachers. Moreover, other research has indicated that teacher-training programs should include more personal development training to prepare students for teaching in inclusive settings. (Kossewska, 2006).

The need for inclusion has become an international issue as human rights organizations and various laws seek to provide guidelines for special education. Decades ago, students with disabilities were either placed in special schools, kept at home, or institutionalized. Even today, teachers who view inclusion favorably still believe that certain disabilities should be excluded from the classroom. The more severe the student's disability, the less favorable the teacher perception of inclusion (Mdikana, et al., 2007). Inclusive attitudes in several countries were examined and it was concluded that teacher attitudes were closely associated with cultural acceptance of exceptional education. For example, other research found in the United States, teachers' attitudes have the most positive attitudes (as does Germany) because of standard inclusive practices. Laws such as Public Law 94-1423 may have provided an incentive for American teachers to embrace inclusion; as such laws were implemented so that teachers become accountable for how they differentiate their instruction to include all learners. In countries where inclusion was not readily embraced, the authors pointed out that little, if any, training was available for these teachers and very few opportunities existed for integration (Mdikana et al., 2007).

Most studies conducted on this subject have mentioned that teachers are often hesitant about inclusion because they are not comfortable about their ability to teach special students and they are not sure about their ability to manage these students. This study was conducted under the assumption that teacher attitudes may act to facilitate or constrain the implementation of inclusive education. Participants were graduate education students who were in their final year of study, which included 22 students in all. Information was gathered through questionnaires divided into two parts. The first part of the questionnaire asked participants about factors that influenced attitudes and were designed to provide background information. The second part focused on pre-service educators' attitudes towards inclusion. The results supported previous findings that teachers generally favored inclusion. However, it was also noted that due to the limited number of participants, these findings should not be attributed to the beliefs of the general population of teachers.

Conclusions

More research is needed to determine the most effective models for inclusion to promote student success. Research could include a correlational study that focuses on positive teacher attitudes towards inclusion and student test data or the impact of professional development on the attitudes and beliefs of teachers in an inclusive environment. Other studies could focus on the role of administrators in the success or failure of inclusion in their schools or district, or the role of the

special education teacher in facilitating positive transitions of students and teachers in the general education classroom. Inclusion is not a faddish reform movement that will fade over time. Therefore, educators, administrators and policymakers are charged with the task of finding what works, monitoring progress, and adapting their practices in order to meet the needs of all learners in the classroom.

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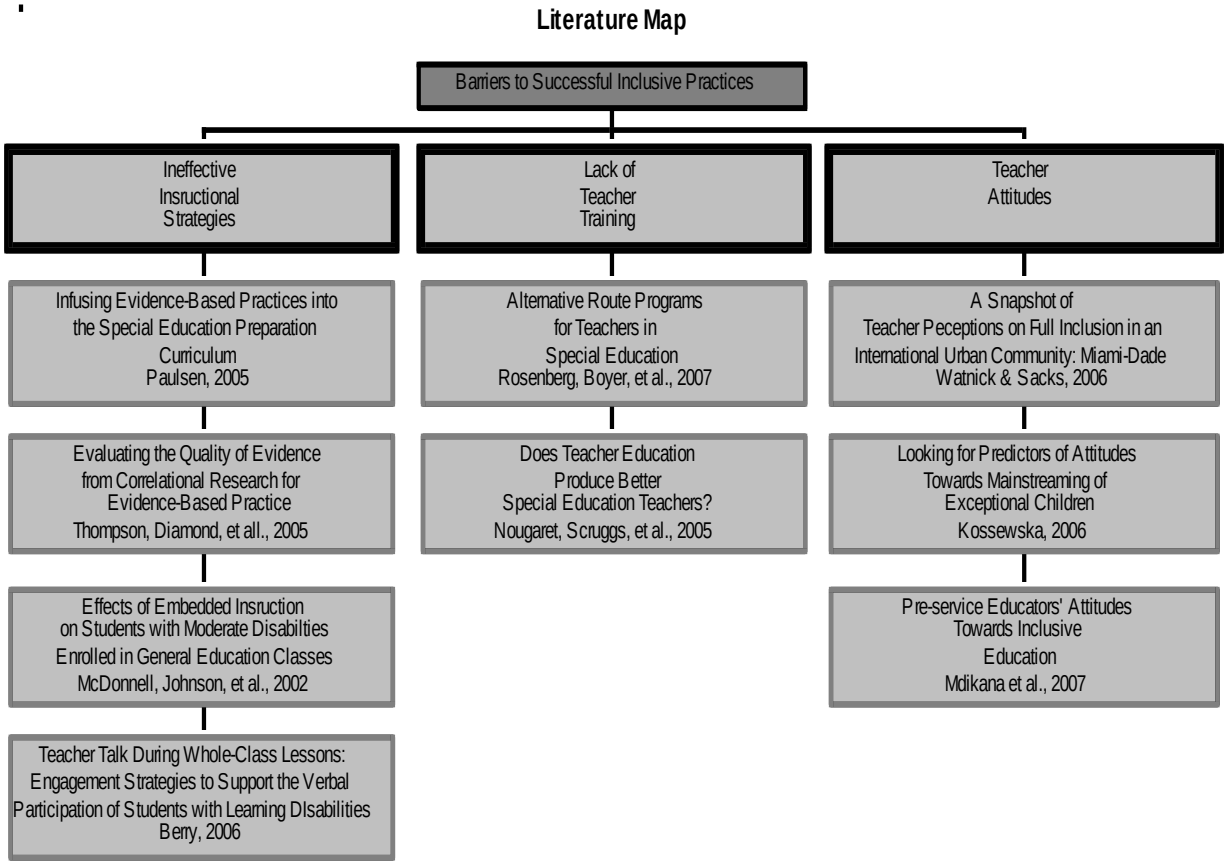
Figure 1


Literature Map
Barriers to Successful Inclusive Practices
Ineffective Insructional Strategies
Lack of Teacher Training
Teacher Attitudes
Infusing Evidence-Based Practices into the Special Education Preparation Curriculum
Paulsen, 2005
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Cameras in Self-Contained Classrooms: Legal, Professional and Student Implications

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Abstract

This paper examines the use of cameras in self-contained special education classrooms. It begins with an examination of the legal framework used when administrators are contemplating the implementation of video surveillance within the classroom. It gives a brief summary of the Family Educational Rights and Privacy Act, Individuals with Disabilities Act, No Child Left Behind Act, and The Fourth Amendment of the Constitution and how they connect to the use of classroom cameras. This paper also explores several important court cases surrounding video footage within classes, as well as, the pros and cons of using audio-visual equipment to monitor individual classrooms. A field study conducted in Wasatch School District provides anecdotal information regarding video surveillance and outlines the advantages and disadvantages from the viewpoint of a behavior specialist, school psychologist, principal, and special education coordinator. The paper concludes with an analysis of the relevance of classroom cameras to professional goals as outlined by the Educational Leader Policy Standards.

Legal Foundation

Several laws should be regarded when making the decision to utilize cameras in self-contained classrooms. School districts should carefully study legal documents regarding student and parent rights prior to installing cameras in special education classrooms. The four federal laws that schools should consider include the Family Educational Rights and Privacy Act, Individuals with Disabilities Education Act, No Child Left Behind and the Fourth Amendment of the Constitution.

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974, often referred to as FERPA, is a federal law that protects the privacy of the educational records of students attending schools that receive funding from the U.S. Department of Education. It ensures students-of-age (18) and their parents have the right to inspect and copy personal educational records, challenge the accuracy of the records through a hearing, and determine what confidential information is released. Schools must receive written parental permission to release any information from a student's record to unauthorized parties (Essex, 2008).

Under FERPA, schools are allowed to disclose records without consent under certain conditions or to certain parties. School officials with legitimate educational interest, specified officials for evaluation or auditing, officials in health or safety emergencies or state and local authorities within a juvenile justice system can all have access to a student's educational record without parental consent (U.S. Dept. of Ed). Parents must receive a notice of their FERPA rights, which outlines the procedures for inspecting and reviewing educational records, requesting records be

amended, and the criteria for determining who is a school official and what is a legitimate educational interest (Essex, 2008).

Administrators should carefully consider the rights outlined in FERPA prior to making the decision to place cameras in the classroom. Administration will have to ensure each individual student's right to privacy is intact, while balancing the parent's right to review educational records. If video recordings are considered educational records, parents have a right to view them. Parents may want to view video recordings of their child, but it then violates another student's right to privacy. Policies will need to be put in place to ensure that every student's rights are protected. Teachers will be required to keep the videos confidential and access will need to be limited to school officials that have a legitimate educational interest.

Individuals with Disabilities Act

Another important law to be familiar with when contemplating cameras in special education classrooms is the Individuals with Disabilities Education Act (IDEA). This law was initially enacted in 1990 and was later reauthorized in 2004 under the new name, Individuals with Disabilities Improvement Act (IDEIA) (Essex, 2008).

IDEIA functions as a protection for students with disabilities. IDEIA guarantees students in special education a free and appropriate public education, right to due process, and the right for a student to receive education in the least restrictive environment (Essex, 2008). IDEIA also provides parents and students with procedural safeguards, such as confidentiality, prior written notice, parental consent for evaluations, and right to due process. Much like FERPA, IDEIA also affords parents the right to review special education records and that these records will be protected. Special educators are legally required to keep all records in a locked cabinet with a records access authorization list posted. Those authorized to view records have an educational purpose to do so (U.S. Department of Education, 2014).

When considering the placement of cameras in the classroom, teachers and administrators have the responsibility to protect the rights of all students. Recordings must be kept confidential. Under the guidelines IDEIA, Parents are guaranteed prior written notice, thus they have to be notified in writing that cameras are in their child's classroom. Special Educators and Administrators must enforce that the video recordings be for educational use only, or cameras could infringe on a student's right to a free, appropriate public education and constitute a FERPA violation. Having cameras in the classroom may help teachers and school districts implement key aspect of IDEIA. Analyzing footage from cameras may assist teachers in evaluating if students are truly receiving a free, and more specifically and appropriate education, as well as, if they are in the least restrictive environment.

No Child Left Behind ACT

The No Child Left Behind ACT of 2001 (NCLB) is also a law involved in decision to place cameras in the classroom. One focus of NCLB is to ensure all students have access to high quality education. This is measured by annual testing and specific qualifications for teachers. NCLB requires schools to hire highly-qualified teachers and provide support to improve their pedagogy and ultimately their student performance (No Child Left Behind Act 2001).

Cameras may act as a support to NCLB by providing useful information for teacher improvement. Having cameras in the classroom may provide a tool for teachers to analyze their teaching and classroom management. Educators can use video self-evaluate the effectiveness of their instruction and implement strategies to increase student engagement and participation. Teachers can also use video as a way to collect data on student behavior, find patterns regarding behavioral triggers and use this information to create or improve individual student behavior plans. Special Educators can also use recordings to train para educators in appropriate instructional and behavior management strategies. Finally, cameras could provide administrators with a more accurate view of the daily instruction that happens within the classroom. Principals can reinforce best educational practices and also coach teachers on areas for improvement. It can also give special education coordinators direction on what professional development his/her staff would benefit from.

The Fourth Amendment of the Constitution

The fourth amendment of the Constitution of the United States provides administrators and teachers with important constitutional rights to consider when using cameras in individual classrooms. The fourth amendment states:

> "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized." (FindLaw 2014)

Teachers may feel that cameras in their classrooms is a violation of their fourth amendment rights because the footage may be considered an "unreasonable search." District school boards would benefit from making a policy regarding video surveillance. This policy should include the requirement to notify parents, students, and teachers that cameras will be used in the classroom. It should also outline who will have access to the video and under what circumstances, as well as define the purposes for the video footage. Teachers and other individuals recorded by school video security have the general right to view the content, so long as it does not violate the rights of someone else. The policy should also include the storage and retention of the surveillance. These steps will help school districts ensure the rights of all parties involved are protected.

Important Court Cases

The placement of cameras in special education self-contained classes is a fairly recent issue and has made its biggest splash in the courtrooms within the last several years. Several court cases have been initiated in different states, however, no rulings have been made at the federal level. There are many court cases that provide information regarding the use of cameras in classrooms; however, for the purpose of this paper only three will be discussed. In several of the cases, footage from classroom cameras were used as evidence of child abuse. These cases can be an excellent resource to school districts. They provide examples of issues that have already arisen about the use of cameras in the classroom and can help administrators identify the pros and cons of classroom surveillance.

Senate Bill 1380

The creation of Senate Bill 1380 (SB1380) began from a petition that was started on change.org in 2013 by Maranda Collins Marvin of Houston, Texas. The petition advocated for the use of cameras in special education classrooms across the state of Texas. Marvin focused on the vulnerability of students with disabilities, especially those who are nonverbal. She cited several news reports about abuse within special education classrooms, in addition to individual parent experiences regarding adverse punishments their children had been exposed to. Marvin gave examples of disciplinary actions that had been reported by parents, such as: **"**bruises on their child's body - found out that their child's hair was ripped out and then the child was closed in a filing cabinet - made to eat hot sauce covered crayons - had water sprayed into their face at point blank range - slapped, pushed, & beaten - made to sit in a closet/store room for extended periods of time without food or water.**"** (Marvin 2013). The petitions main objective is to protect children with disabilities from these horrendous acts.

Over a thousand people signed Marvin's petition. Two representatives from the Texas Senate helped draft a bill called SB 1380 and fought to enact it as law. SB 1380 required each school district in Texas to install cameras in their special education classes, including those in charter schools (Patrick, 2014).

The bill outlined policies for footage retention, prior written notice given to parents before installation, and camera placement, coverage and equipment funding. Cameras were to cover all areas of the classroom except for the bathroom and any other area where students changed their clothing. If parents wrote a letter and submitted it to the district denying video consent within 30 days of the prior written notice, the school was prohibited to place a camera in that classroom. The video footage was to be retained for at least 6 months. School districts were granted permission to accept gifts, donations and grants to fund this project. If no funding was given through these means, districts had the responsibility to purchase the video surveillance equipment (Patrick, 2014).

SB 1380 was passed by the Texas State Senate, but did not pass the Texas House of Representatives. The main argument against the enactment of SB 1380 was the financial burden placed on school districts to pay the cost of installing and maintaining cameras. Each camera was estimated to cost a minimum of seven hundred dollars. Critics believed that if the state was going to mandate the use of cameras, the state should also assume the financial responsibility (Rambin, 2014).

Phipps et al v. Clark County School District

One court case that demonstrates the importance cameras can play in the classroom is John Phipps v. Clark County School District. The Phipps family expressed they believed their child was being abused at school. Their son had returned from school with bruises and rug burns on his body. The principal investigated the alleged abuse and reported that the student was causing the bruises and rug burns. Another parent came forward with suspicions of abuse taking place in the classroom and reported it to the Clark County School District. Clark County School District placed hidden cameras inside the classroom without notifying the teacher of staff. The video footage verified the parents' allegations. Phipps' son was abused by the substitute teacher and a para professional. The substitute teacher and para professional are no longer employed by the District (Phipps v Clark County School District, 2013).

The surveillance footage proved useful evidence of child abuse taking place within the special education classroom. If Clark County School District had not used cameras, the abuse may have taken much longer to prove and the student's safety would have continued to be in jeopardy. Administrators can use this tool to maintain a safe school environment. This case demonstrates that video can protect students and teachers from abuse and abuse allegations.

Plock v. Board of Education of Freeport School District

Plock v. Board of Education of Freeport School District discusses the placement of cameras in special education classrooms and if it is a violation of the fourth amendment. The plaintiffs, two special education teachers employed by Freeport School District, were accused of abuse. The teachers taught "EXCEL" and "Life Skills" classes. The school district moved to install audio and visual recording equipment in these classrooms. When asked where the cameras were installed, administration asserted, "Where the most vulnerable children, both physically and emotionally challenged, were assigned." (Plock v Board of Education of Freeport School District , 2007). The plaintiffs willingly agreed to the placement of cameras for visual monitoring, but objected to the audio monitoring. They filed suit stating that audio monitoring was an unreasonable search and an invasion of privacy. They also claimed that audio recordings was against the Illinois Eavesdropping Act (Plock v Board of Education of Freeport School District , 2007).

The court had to determine if the fourth amendment was applicable to a classroom setting or if a classroom was considered a public environment. In O'Connor v Ortega, the Supreme Court ruled that, "some government offices may be so open to fellow employees or the public that no expectation of privacy is reasonable." Using this precedent, It was decided that an

> "entire classroom in a public school building is not reserved for the teacher's exclusive, private use. Rather, classrooms are open to students, other faculty, administrators, substitute teachers, custodians, and on occasion parents...The classroom in public school is not private property of any teacher. A classroom is a public space in which government employees communicate with members of the public." (Plock v. Board of Education of Freeport School District, 758)

The court ruled that the Board of Education of Freeport School District was not infringing upon the fourth amendment rights of the plaintiffs by installing cameras.

The court determined that the school board was not in violation of the Fourth Amendment, so therefore, the claim regarding the Illinois Eavesdropping Act was dropped. All pending motions were arguable and thus the case was terminated (Plock v Board of Education of Freeport School District , 2007).

The results of this case may help administrators with the decision of placing cameras in classrooms. It established that classrooms are considered public offices do not violate teachers' privacy. The camera footage ended up providing the school district with evidence of abuse, which also validated the school board's decision to monitor the classroom through video and audio surveillance (Plock v Board of Education of Freeport School District , 2007).

Theory to Practice

There are many positive and negative outcomes to consider when placing cameras in special education classrooms. Districts and school administrators should weigh the pros and cons associated with video surveillance prior to making a policy or implementing its use.

Pros

Cameras can serve a variety of purposes that positively affect teachers, students, administrators and the school as a whole. They can help improve instructional practice, provide information for behavior management, increase student and teacher safety and be a way to keep important records.

Teacher and Student Safety. Many of the court cases mentioned above mention the vulnerability of abuse student with disabilities face. Self-contained classrooms are filled with individuals with complex needs, behaviors, and disabilities. Special Education teachers must follow procedures outlined by their state regarding discipline. The state of Utah uses a manual called the Least Restrictive Behavioral Interventions (LRBI). LRBI provides a pyramid of interventions, starting with the least restrictive to the most restrictive. It instructs educators to always start with the least restrictive practices. These practices are defined as a positive behavior support system. This system includes establishing classroom expectations, explicitly teaching positive behavior, reinforcing positive behavior, and correcting behavioral errors. It also outlines the use of more restrictive practices such as, seclusionary time out and physical restraint and the appropriate circumstances in which to use them (Utah State Office of Education, 2014).

If teachers are not following the procedures set forth in the LRBI, they may be harming a student. A teacher may be using unapproved physical restraints or utilizing them as an initial intervention in replace of positive behavior supports. Accusations of abuse are evident in the court cases mentioned above. Camera footage can provide administrators with the unbiased information regarding instruction practices taking place inside classrooms. Footage can provide evidence of abuse, either from other students or teachers.

It also may positively affect how teachers interact with students and prevent abuse, poor instructional pedagogy, or failure to adhere to the students Individualized Education Plan. According to an interview with Dr. Ben Springer, a school psychologist and district special education coordinator for Wasatch School District, video surveillance “increases visibility and accountability for educators” (Springer, 2014). He goes on to state, “lack of supervision breeds pathology,” meaning that “when practices go unsupervised, things go awry.” (Springer, 2014). When teachers know they are being filmed, they may be more likely to utilize best educational practices. Teacher are accountable for everything that goes on in their classroom, especially when a video can be reviewed by the district.

It can also be a protection to teachers from student abuse or abuse allegations. Students can exhibit aggressive behavior toward their fellow students or their teachers. Cameras can record these incidents and provide an accurate sequence of events, which can be analyzed by school psychologist, the special educator, and administration. This can help the school team come up with ways to protect staff and students.

Behavior Management. Cameras can be used in the classroom to help create and implement behavior plans for students with disabilities, as well as monitor behavior in general. Video footage can be used to identify the antecedent, function and consequences of student behavior. This information is essential in creating an effective and comprehensive behavior plan. Special educators often us a Functional Behavior Assessment (FBA) to create a Behavior Intervention Plan (BIP). This plan requires the observer to record what happens before the behavior, identify the problem behavior, and the consequences the teacher or staff administrates in response. These components are examined to find the function of the behavior. Some reasons or functions behind a student behavior may be to get attention, to get a tangible object, to fulfill a sensory need, or to escape a task. With is information, a school team can introduce a positive replacement behavior to the student that serves the same function as the problem behavior. This information is all recorded into the BIP.

Sometimes it is difficult for the observer to record all the antecedent, behaviors and consequences in real time. Videos make it easy for the observer to review the material over and over, thus making the observation more accurate. Also, students and teachers sometime act differently when someone is observing them, or a student may be having an "out of ordinary" day. Cameras allow the school team to collect several data points, on several different days with no change to the student's natural educational environment.

CareLog is a selective archiving tool to assist special educators and districts with conducting Functional Behavior Assessments. After a careful study of the requirements of FBAs, CareLog created a system that utilizes classroom cameras. Teachers often have the burden of taking data on problem behaviors in their classrooms. Live data collection is tedious and difficult, especially when a teacher is trying to collect data while teaching. Training a para educator can also be a challenge. It takes time and often para educators lack the extensive knowledge on data collection procedures that are found in special education teacher programs (Hayes, Gardere, Abowd, & Truong, 2008).

CareLog capitalizes on "Automated capture and access technologies...allow[ing] for constant recording of information of live events, such as audio and video, for successful review at a later time." (Hayes, Gardere, Abowd, & Truong, 2008) Cameras allow teachers to review classroom instruction and identify antecedents, behaviors and consequences.

Teacher Development and Training. Cameras can be a powerful tool in teacher development and training. Cameras allow educators to record lessons, behavior interventions, and interactions between staff and students. Teachers can examine their practice and find ways to improve. Many teacher educator programs utilize video. Andrew Muffler, Behavior Specialist for Wasatch District recounts,

> "I used [cameras] during my student teaching. We used it to study the effectiveness of my teaching. I was able to go back and watch how I did. I could take notes and see where I needed to be more prepared with content, or where I needed to use a different type of teaching method to disseminate information to the students. We also used it to keep data for the students to be able to do things like timing how long they stay in their seat, or how

> many times they blurted out some phrase. It was very beneficial to me as the teacher to improve my teaching and to keep better data so that I didn't have to do it while I was teaching." (Muffler, 2014).

Cameras give educators the opportunity to review their instruction several times and analyze pedagogy. Using this information they can make important changes to improve student achievement.

It can also provide special educators with a more concrete way of training their para educators. Teachers can show para educators student behavior triggers, task engagement, and specific teaching strategies through sharing video footage with them. It provides para educators with real life examples. It can also help special educators identify areas their staff needs more support with and help them plan trainings in these areas.

Administrators can use videos to drive professional development decisions and support new teachers. Administrators have many responsibilities and often have a limited amount of time to observe and coach teachers. Sometimes different teachers are teaching at the same time. A principal cannot be in two places at once. Cameras can help with these logistical difficulties. The principal can review recorded lessons, take notes and schedule times to provide instructional coaching for individual teachers or teacher groups. This would be especially helpful for new teachers. New educators can review, analyze and improve their teaching at the beginning of their careers. They can ask for resources and supports to help them in the areas they identified in the video as weak. Administrators can give feedback to new educators and use this information to link them with mentors who have the best strengths to help them.

School-Wide Improvement. The use of classroom cameras can improve teacher, student, and staff safety, thus impacting the overall safety of the school. It may help create an environment of care and security school-wide because students, parents, teachers and administrators know that they will have a record of classroom happenings.

Record. Special education teachers are required to keep meticulous records. They keep records related to the student's Individualized Education Plan (IEP), goals, behavior and parent contact. Video is just one more way educators can keep records of events that happen in the classroom.

Cons

In addition to the pros of classroom camera use, there are also several disadvantages. It can induce teacher and student stress and may cause them to feel their privacy has been taken away. The cost of the equipment and time constraints teachers and administrators face can also be a challenge.

Stress. Teachers and students may experience more stress if they feel that they are being constantly filmed. They may feel that what they do or say is continually under scrutiny. Students with anxiety may experience more stress knowing they are being filmed. Teachers may interpret the placement of cameras as a lack of trust from their administrators or parents.

Privacy. As mentioned in the Plock v. Board of Education of Freeport District, teachers may feel that cameras in the classroom are a violation of their privacy. They may feel that they have an expectation of privacy (Plock v Board of Education of Freeport School District , 2007). Obviously the court ruling dictates otherwise; however, administrators should be sensitive to this concern. Teachers should be notified that cameras will be placed in their classrooms and the purpose they will serve.

Cost of Equipment. Often time the burden of purchasing video surveillance equipment falls on the shoulders of individual school districts. Installing high quality cameras can be very costly. Spending money on video equipment may take funds away from other areas that benefit student achievement, which can be an extremely difficult decision for district to make.

Bill Gates would like to take the financial pressure off of school districts and require the country to spend five billion dollars on camera equipment. He believes that cameras in the classroom could greatly benefit education. He acknowledges that five billion dollars is a large sum, but states "…to put it in perspective…it's less than 2% of what we spend on teachers' salaries and benefits" (Kamentez, 2014). If the bill passes, it could be a game changer for school districts. If the bill does not pass, districts will have to accrue the cost of video equipment through district funds, donations or grants.

Time Constraints. Monitoring equipment and view video may take a substantial amount of time from educators and administrators. Teachers and administrators already have so much to do, cameras may become more a burden than a help.

Field Activity

Current Use of Cameras at Wasatch High School

Wasatch High School is located in Heber City, Utah. It has roughly 1,800 students and is the only high school in the district. The high school has forty-three surveillance cameras in use, 4 of which are located in rooms where classes are taught. The classroom cameras are in the gyms where physical education is taught and in the band room. There are no cameras in self-contained classrooms. The cameras primarily positioned to film the hallways, commons, and parking lots (Kelley, 2014).

The cameras were installed in the high school in 2001-2002 school year. The school board made this decision after studying other schools that used cameras (Kelley, 2014). The board made a district video surveillance policy. The policy outlines the procedures for the "access, use, disclosure, retention, security, and disposal of video security surveillance records (Wasatch School District , 2014)." The policy states that purpose of video surveillance is to protect students, staff and the public and investigate criminal activity and vandalism. Tapes or records of footage will be stored in a secure environment under key and lock. Also the superintendent and the school administrators will be granted access to the video recordings- both real time and archived. The video will be retained for a fourteen day period .If a criminal investigation is underway, law enforcement may also be granted access to video and the video

will be available for at least one year. Anyone that is filmed may be granted limited access to the video under the discretion of the building administrator (Wasatch School District , 2014).

Pros and Cons in Our School

In an interview with Shawn Kelley, principal of Wasatch High School, he articulated several advantages and disadvantages to video surveillance in self-contained classrooms. The main benefit to classroom cameras mentioned by Mr. Kelley was the protection they offer to teachers and students. It can corroborate suspicions of student abuse and also protect teachers from false allegations. The major disadvantage is the cost of the equipment. Mr. Kelley also mentioned that cameras were most beneficial in areas of low supervision. The classroom is a highly supervised area and therefore in theory would not have as high of a need of video surveillance (Kelley, 2014).

Dr. Ben Springer, special education coordinator for Wasatch District listed different pros and cons than Mr. Kelley. He thought cameras would be most useful as instructional tools, with the purpose of collecting data on student behavior and developing effective staff training. He was less interested in the use of cameras as a classroom surveillance device. With is school psychologist background, Dr. Springer sees classroom cameras as an invaluable observation tool. He cites a situation that happened on a special education bus in the district. A male student attacked a female student. It was all on tape. He was able to review the footage, identify the student's triggers, create a behavior plan and train bus aids on proper behavior management procedures (Springer, 2014).

He lists the major con to classroom cameras is the lack of public understanding. He says that the public has limited understanding of what goes on in a self-contained classroom. Student with severe disabilities may exhibit extreme behavior where physical restraint is appropriate. He also states that he does not like the idea of cameras being a "chronic eyeball", mostly because he wants to respect student privacy. Students may have compromising behavior filmed. Dr. Springer gives the example of "a student struggling with self-stimulatory behavior and starts masturbating in class. Now that is on video." He feels that when you are working with students with cognitive, emotional and social impairments you have to be extremely careful with video content. When talking about continual classroom video, Dr. Springer asserts "we do not live in a data secure enough world where I would feel comfortable with that." Classroom cameras can provide important student data, but also can present complexities that administrators must face (Springer, 2014).

Relevance to Professional Goals

The implementation of video recording in self-contained classrooms can support many professional goals. The Educational Leadership Policy Standards outlined by ISLLC focus provide guidelines for administrators to create and meet important professional goals. When making the decision to put cameras in classrooms, districts should review the standards outlined by ISLLC.

Standard One
ISLLC standard one is "An education leader promotes the success of every student by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by all stakeholders." (The Council of Chief State School Officers, 2014) The evidence of this standard centers around creating and evaluating student goals. Cameras can help special education teachers "Collect and use data to identify goals, assess organizational effectiveness, and promote organizational learning." (The Council of Chief State School Officers, 2014) The data collected from video footage can help educators create plans for learning and behavior, thus creating an environment of continual improvement. Video can also help teachers monitor progress and adapt plans and instruction to better support students.

Standard Two
Standard two's focus is creating a school culture that promotes "the success of every student by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth." (The Council of Chief State School Officers, 2014) One of the ways administrators can do this is by supervising instruction. Cameras provide an additional way for administrators to evaluate the instruction students are receiving. Technology, such as cameras, can be a way to assess student progress and evaluate the effectiveness of instructional programs.

Standard Three
One of the most important aspects of standard three is to "promote and protect the welfare and safety of students and staff" (The Council of Chief State School Officers, 2014). Cameras can prevent abuse or unprofessional behavior from happening in classrooms. Teachers are less likely to practice inappropriate or unprofessional behavior if they know they are being recorded. Video can also verify alleged abuse or aggression by teachers or students. Administrators can use this information to take the appropriate steps to put an end to these actions.

Standard Four
Many of the standards above mention the importance of collecting data to measure student achievement. Standard four encourages educational leaders to "collect and analyze data and information pertinent to the educational environment" (The Council of Chief State School Officers, 2014). As mentioned earlier sections, evaluating recordings can help teachers and staff know what environmental changes need to happen to improve student achievement and behavior. Teachers can examine the antecedents to the problem behavior and see what environmental factors are involved. They can make changes to seating, stimuli, staff, or reinforcement.

Standard Six
The final standard emphasizes the importance for an educational leader to "promote the success of every student by understanding, responding to, and influencing the political, social, economic, legal, and cultural context" (The Council of Chief State School Officers, 2014). A major piece to accomplishing this goal is supporting students and families. Principals should be an advocate and encourage parent and student participation in the educational process. Cameras may help make parents feel at ease, knowing that their child is safe. It is also way for administrators to demonstrate that they hold their teachers accountable.

Conclusion

When making the decision to use cameras within the classrooms, administrators should carefully study important laws and court cases, weigh the pros and cons, and align their decision to professional goals. Court cases have established that classroom cameras are not a violation of the fourth amendment of the Constitution and that teachers do not have a right to privacy because classrooms are considered public offices. Districts can use cameras to help collect data on instruction, student behavior and also thwart student abuse. Audio-visual equipment is expensive and can be a heavy financial burden to districts and may cause teacher and student stress. Cameras can also become a valuable tool to meet student and professional goals when used ethically and effectively. All of these aspects should be taken into consideration when making the decision to install cameras with in self-contained special education classrooms.

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Effects of an Intervention on Math Achievement for Students with Learning Disabilities

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Abstract

Students with learning disabilities score lower than other at-risk groups on state standardized assessment tests. Educators are searching for intervention strategies to improve math achievement for students with learning disabilities. The study examined the effects of a mathematics intervention known as Cover, Copy, and Compare for learning basic math computation skills. Fifteen students diagnosed with learning disabilities participated in this study using Curriculum Based Assessment probes to collect the data. There was a significant difference in math achievement from pre- to post-test scores for students with learning disabilities who participated in the Cover, Copy, and Compare treatment, $t(14) = -15.09$, $p < .001$. An analysis of covariance determined the efficacy of a Cover, Copy, and Compare intervention was not related to gender or ethnicity. One recommendation for future research is to conduct studies regarding Cover, Copy, and Compare instruction's impact on student achievement for younger and older students with learning disabilities.

Effects of an Intervention on Math Achievement for Students with Learning Disabilities

Students with learning disabilities are more at risk of falling behind in their grades and, as a result, are at risk of dropping out of school (Glago, Mastropieri, & Scruggs, 2009; Milsom & Glanville, 2010). According to the National Assessment of Educational Progress (2007), only 6% of students with learning disabilities passed the math component on a standardized mathematics assessment. Because No Child Left Behind (NCLB, 2002) mandates for all students perform at mastery levels by 2014, it was important to study the effectiveness of researched-based interventions for students with learning disabilities (DeSimone & Palmer, 2006). Common Core State Standards (CCSS) assessments are aligned with the accountability provisions of NCLB and are used as the new measuring tool for achievement (Jennings & Sohn, 2014).

An analysis of NCLB and the CCSS was conducted in a study to determine if NCLB and the CCSS could help educators and policy makers understand what they can expect in the future as the CCSS-aligned assessments become the new measuring tool for the accountability provisions of NCLB. Some principals are instructing their teachers to focus their efforts on average performing students. Jennings and Sohn (2014) predicted that high proficiency standards produce increases in average achievement and increases in inequality on high stakes tests such as

the CCSS between higher and lower performing students because lower performing students are neglected to the extent that teachers use more time to prepare higher achieving students to meet or exceed standards. One example of the commitment to computation skills is found in the fourth-grade standards in Number Operations and Base Ten (CCSM.4.NBT.4) requiring that students demonstrate fluency in adding and subtracting multi-digit whole numbers (National Governors Association Center for Best Practices et al., 2010). Jennings and Sohn suggested that a greater emphasis is placed on math at the expense of reading and therefore, more educators are searching for researched based interventions strategies in math and the primary target of the CCSS is the elementary grades. Elementary students with learning disabilities experience many challenges when making the transition to middle school (Glago et al., 2009). Students making this transition may experience a drop in their grades, and this often results in low self-esteem and social and peer exclusion. Glago et al. revealed evidence of the benefit of improving calculation skills for elementary students in determining future success in other math subjects as well as in other subjects such as science. Poor academic performance in early elementary grades correlates with future drop-out rates for students with learning disabilities (Glago et al., 2009; Joseph & Schisler, 2009).

The Common Core reduces the breadth of mathematics topics in elementary grades, which provides students with more time to focus on basic computation skills to be better prepared for a successful transition to middle school. Jordan, Kaplan, and Hanich (2002) found that basic calculation skills were a significant factor in math achievement in higher-level mathematics. The National Mathematics Advisory Panel (2008) reported on the importance of students developing fluency skills in mathematics. A significant link was found to exist between fluency in basic calculation skills and overall mathematics performance (Codding, Eckert, Fanning, Shiyko, & Solomon, 2006; Poncy, Skinner, & Jaspers, 2007).

Students with learning disabilities are more likely to show symptoms, such as problems with accuracy and fluency in basic calculation skills in early grades (Jordan et al., 2002). There are various reasons for students' difficulties in mathematics, including deficits in intelligence, motivation, and vocabulary (Kroesbergen & Van Luit, 2003). The type of instruction influence the ability to learn. Difficulties in mathematics result from inappropriate instruction for the learning styles of students with learning disabilities and directly influence their ability to learn math (Carnine, 1976). Students with learning disabilities are more likely to show signs of weaknesses in basic calculation skills when they enter kindergarten by needing props (e.g., counting their fingers), problems in memorizing, and inaccurate computations for grade-level competency (Jordan et al., 2002).

Research Questions

Question 1. What is the effect of a Cover, Copy, and Compare treatment on academic achievement in math for student with learning disabilities?.

Question 2. What is the difference in math achievement by gender for students with learning disabilities?.

Question 3. What is the difference in math achievement by ethnicity for students with learning disabilities?

Method

Participant Protection

Prior to conducting this research, IRB approval was obtained. The following precautions were made to protect each participant. First, the data collection procedures employed in this research were part of standard procedures at the elementary school under study; therefore, parent consent and student assent were not required. Second, it was possible to conduct the study without recording any names or other identifiers of individual students. Third, students were identified by number, which protected participants' rights, and the researcher received no information regarding their identity and individual performance.

Research Participants

The participants came from a population of 125 fifth-grade students at an elementary school in northeast Georgia. The school, with a population of approximately 700 students, is one of six elementary schools in this district. The teacher assigned students with learning disabilities who scored below the cutoff criterion and who needed the treatment most to the treatment group. Fifteen students with learning disabilities participated in the study. These students scored at or below 50. The majority of the participants were Black (n = 8, 53.3%). Most of the participants were male (n = 9, 60.7%). Frequencies and percentages for participant demographics are shown in Table 1.

Table 1
Frequencies and Percentages for Participant Demographics

Demographic	*N*	%
Group		
Treatment	15	100.0
Ethnicity		
Black	8	53.3
Hispanic	4	26.6
White	3	20.1
Gender		
Female	6	40.0
Male	9	60.0

Design and Instrumentation

A one-group pre- and post-test design was used for this study. This design required data to be collected on study participants' levels of academic performance before and after the intervention took place (Shadish, Cook, & Campbell, 2001). This study design only looks at one group of individuals: those who receive the intervention (treatment group). The pre- and post-test design allows for inferences on the effect of the treatment (Shadish et al., 2001). Descriptive information is used to explain the context of the study. Quasi-experimental studies rely primarily on simple statistical tests like t tests and attempts to examine the effects of an intervention on a specific population (Shadish et al., 2001).

The teacher used AIMSWeb Mathematics CBMs to assess math achievement in division skills for fifth-grade students with learning disabilities (Pearson, 2008). The pre-assessment and post-

assessment CBMs measured performance and the CBM assessment probes measured progress. The CBM pre- and post-assessment instruments and the math probes yielded information on accuracy (percentage of digits correct) and fluency (digits correct per minute). The following section addresses teacher training, the specific testing instruments, and scoring processes.

Teacher Training

Teachers received training in CCC instructional strategies. CCC procedures require the teacher to follow a five step process. First, the teacher gives the student a sheet of target problems. Second, the student is taught to study the problems and answers provided on the left side of the page. Third, the teacher instructs the student to cover the problems and answers on the left side of the page. Fourth, the student is taught to write the problems on the right side of the page. Fifth, the student uncovers and evaluates the response (Skinner, Belfiore, Mace, Williams, & Johns, 1997).

Testing Instruments

The AIMSWeb CBM math probes determined if students with learning disabilities improved performance in mathematics skills. School professionals have used the results of CBM math probes to improve instruction and monitor students' progress. Researchers usually give students a commercial broad-based achievement test to assess their skills in mathematics. These tests contain samples of a wide range of types of computation problems, but very few problems of any particular type. Combined with the fact that these types of math tests usually have only one form, it is difficult to reliably identify which types of problems students can do correctly and more importantly, to monitor the effectiveness of math interventions by measuring progress frequently. Math CBMs resolve these problems by providing educators instruments that tests across grade levels or types of math computation problems such as difficulties in math fact accuracy (Marston, 1989; Shinn, 2002). Math CBMs are reliable and appropriate instruments to measure the effectiveness of CCSS.

The CBM assessment probes contained 20-25 division problems with one and two digit divisors. The probes consisted of four different sheets of division problems over the 8-week treatment period. CBM assessment probes are reliable instruments that are sensitive to changes of students' performance over time (Shapiro, 2004). Educators and states sanction CBM assessment intervention materials because of their high rates of predictive success in helping students achieve higher scores on standardized tests.

Treatment

The teacher administered the AIMSweb CBM Mathematics to the treatment group. Students practiced division skills to assess accuracy and fluency in math. Students in the treatment group practiced division skills with one- and two-digit divisors for 15-minute sessions twice weekly over the 8-week intervention period. Following this instruction, students used 4 minutes to complete the division probes to determine if students' accuracy and fluency improved.

Testing and Scoring Process

The AIMSweb CBMs provided current functioning information of students' skills in division at the beginning of the study, determined academic changes during an 8-week study, and provided information on students' skills in division at the end of the study. The teacher assigned

AIMSWeb CBM probes, gave students 4 minutes to record solutions on paper, divided the total number of correct problems by the total of problems attempted, and multiplied by 100 to calculate percent accuracy. The teacher measured achievement by calculating scores from the pretest and the posttest using data provided from AIMSWeb CBMs.

Results

For the treatment group, pretest scores ranged from eight to 20 (M = 13.93, SD = 4.11). At posttest, the treatment group had scores from 30 to 50 (M = 42.07, SD = 6.62). Means and standard deviations for pretest and posttest for students with learning disabilities are in Table 2. A test of the hypothesis determined the efficacy of a CCC treatment for students with learning disabilities and academic achievement. A dependent sample t test compared pretest scores to posttest scores. The results of the dependent sample t test indicated there was a significant difference, t (14) = -15.09, $p < .001$. This suggests that there was a significant increase from pretest scores to posttest scores. Therefore, null hypothesis 1 was rejected. See results of the dependent sample t test in Table 3.

Table 2
Means and Standard Deviations for Pretest and Posttest

	Treatment	
Test	*M*	*SD*
Pretest	13.93	4.11
Posttest	42.07	6.62

Table 3
Dependent Samples t-test Results for Pretest Versus Posttest Scores

	Pretest		Posttest			
	M	*SD*	*M*	*SD*	*t* (14)	*P*
Scores	13.93	4.11	42.07	6.62	-15.09	.001

An ANCOVA was used to assess if there were differences in the posttest scores by gender after controlling for pretest. In this analysis, posttest scores were the continuous dependent variable, gender was the independent dichotomous variable, and pretest scores were the continuous covariate. In preliminary analysis, the assumptions of normality and equality of variances were assessed with the Kolmogorov-Smirnov (KS) test and Levene's test, respectively. Both tests yielded non-significant results, supporting the assumptions. The results of the ANCOVA were not significant, F (1, 12) = 1.33, p = .272, suggesting that gender was not related to the CCC instructional strategy. Therefore, Null Hypothesis 2 could not be rejected (see Table 4). Means and standard deviations for pretest and posttest by gender are in Table 5. An ANCOVA was used to assess if there were differences in the posttest scores by ethnicity after controlling for pretest. In this analysis, posttest scores were the continuous dependent variable, ethnicity was the independent nominal variable, and pretest scores were the continuous covariate. In preliminary analysis, the assumptions of normality and equality of variances were assess with Kolmogorov-Smirnov (KS) test and Levene's test, respectively. Both tests yielded no significant results, supporting the assumptions. The results of the ANCOVA were not significant, F (2, 11) =1.99, p

=.183, suggesting that ethnicity was not related to the CCC instructional strategy. Therefore, Null Hypothesis 3 could not be rejected. Results of the ANCOVA are in Table 6. Means and standard deviations are in Table 7.

Table 4
Results for ANCOVA for Posttest by Gender

Source	*SS*	*MS*	*F*(1, 12)	*p*	η^2
Pretest	15.23	15.23	0.34	.571	.03
Gender	59.50	59.50	1.33	.272	.10
Error	538.20	44.85			

Table 5
Means and Standard Deviations for Pretest and Posttest by Gender

	Female		Male	
Test	*M*	*SD*	*M*	*SD*
Pretest	11.67	1.97	15.44	4.56
Posttest	39.33	7.76	43.89	6.62

Table 6
Results for ANCOVA for Posttest by Ethnicity

Source	*SS*	*MS*	*F*	*p*	η^2
Pretest	15.23	15.23	0.38	.549	.03
Ethnicity	158.89	79.45	1.99	.183	.27
Error	438.81	39.89			

Table 7
Means and Standard Deviations for Pretest and Posttest by Ethnicity

	Black		Hispanic		White	
Test	*M*	*SD*	*M*	*SD*	*M*	*SD*
Pretest	12.88	4.05	13.50	3.42	17.33	4.62
Posttest	39.88	5.51	4150	8.70	48.67	1.15

Discussion

A test of hypothesis determined the efficacy of a CCC treatment for students with learning disabilities and academic achievement. The purpose was to determine if student achievement in math computation skills (division) increased from pre to posttest when the instructional strategy was CCC. The results of a dependent sample *t* test indicated a significant difference in scores. Students with learning disabilities scores increased significantly from pretest to posttest in math.

An ANCOVA was used to assess if there were differences in the posttest scores after controlling for the pretest. ANCOVA assessed the differences in the posttest by gender. The results of the posttests determined that a CCC intervention was not related to gender. ANCOVA assessed if

there were differences in the posttest scores by ethnicity after controlling for the pretest. The results of the posttests determined that a CCC intervention was not related to ethnicity. Students with learning disabilities were instructed in division skills using CCC strategies. These results support findings of other researchers regarding CCC when compared to other intervention strategies (Belfiore, Lee, Scheeler, & Klein, 2002; Codding, Shiyko, Russo, Birch, Fanning, & Jaspen, 2007; Poncy, Skinner, & Axtell, 2010; Skinner et al., 1997). Poncy et al. (2007) evaluated and compared the effects of a CCC intervention and Taped Problems (TP). The results reported by Poncy et al. demonstrated improvement in math fact accuracy and fluency for elementary students diagnosed with a mild form of retardation. The dependent measures included the number of digits correct and the number of digits completed per minute on assessment probes. The study extended the research on math fact accuracy and speed by determining that both TP and CCC could enhance math performance for students with low cognitive functioning skills in math and who often counted their fingers in order to compute the correct answer. Students with learning disabilities made progress toward the cutoff criterion in this study and therefore extended the research by supporting the findings of previous research. Belfiore et al. (2002) compared elementary students' rates of growth in percent accuracy and fluency on two empirically-validated instructional interventions. This study assessed whether Behavior Momentum (BM) and CCC instructional strategies in combination increase academic gains of elementary students. The results of the study did not show significant differences between the CCC intervention and the BM intervention on rates of growth. However, previous research documents that these interventions increased academic gains in accuracy and fluency when used separately (Codding et al., 2007; Skinner et al., 1997; Skinner, Turco, Beatty, & Rasavage, 1989).

Cover, Copy, and Compare interventions have been found to be more effective than a traditional approach for students with learning disabilities (Cieslar, McLaughlin, & Derby, 2008; Codding, Channetta, Palmer, & Lukita, 2009; Poncy et al., 2010). Students with learning disabilities have demonstrated an increase in accuracy and fluency after an intervention in CCC procedures. CCC instructional strategies are effective because they require students to continue practicing a skill until mastery is achieved, which is not always part of the traditional instructional plan (Poncy et al., 2007, 2010). Researchers have previously documented that CCC strategies used in conjunction with other intervention strategies did not result in significant differences between the models; however, when CCC is implemented alone, there have been significant increases in accuracy (Belfiore et al., 2002; Codding et al., 2007).

The findings from this study support the need for more research-based intervention strategies in math for students to achieve proficiency and meet the standards put forth by government agencies. The most important benchmark is for elementary students to achieve a solid foundation in math computation skills.

Implications for Practice

Lee and Tingstrom (1994) modified CCC procedures in order to increase students' accuracy and speed in a small group setting. The study's results indicated that the instruction was effective because students' accuracy and speed improved significantly in division skills. Lee and

Tingstrom found that teachers reported that CCC used in a group setting was an effective instructional strategy and that they would use it again.

Cover, Copy, and Compare is a repetitive process. Although there was no significant difference in math achievement by gender, students did make improvement. By giving students opportunities to make responses until they make a correct choice; results indicated increased accuracy and fluency for girls and boys. Boys showed the greatest amount of growth. According to Carr and Davis (2001), gender gaps exist between boys and girls in achievement and this has attracted the attention of educators. Researchers attribute this to stereotyping girls in the classroom by asserting that girls enjoy math less than boys do (Carr & Jessup, 1997). Expectations of parents and teachers account for differences in achievement by gender (Carr & Jessup, 1997; Carr & Davis, 2001).

In the present study, there were no significant differences in math achievement by gender. Girls and boys advanced to a higher level of achievement and also experienced increases in their self-confidence to achieve grade-level competence (Shapiro, 2004). At pretest, females in each racial category scored lower than males in each racial category. The results of this study indicated that female students with learning disabilities showed improvement although they were not significant. White females scored higher than Black and Hispanic females. White males and Hispanic males continued to perform higher than Black males and females in math. Because of the belief that females perform lower in math than their male counterparts, it was important to include gender in this study because the differences in math achievement between males and females is a growing concern for educators and researchers (Carr & Davis, 2001; Carr & Jessup, 1997).

Students with learning disabilities exhibit a variety of characteristics that distinguish them from their peers. In order for older elementary students with learning disabilities to improve in math, instruction designed to remedy students' math deficiencies in basic skills will give students more opportunities to succeed (Kroesbergen & Van Luit, 2003). The Common Core State Standards require that students focus on fewer topics in the elementary grades and use more time to comprehend basic math facts (computation). Students from different ethnic backgrounds are at a disadvantage in that they often have language barriers, low parental support, and low expectations from teachers. The Common Core helps make up for deficits by providing more time for students to learn math facts. Cover, Copy, and Compare instructional strategies provide more opportunities to for students with learning disabilities and cultural differences to achieve higher math scores by providing a foundation that will lead to solving higher-level math skills. Cultural difference is a primary cause of academic difficulties and contributes to students' learning difficulties (Kroesbergen & Van Luit, 2003). This study provides teachers with an intervention that has a research foundation for improving students' academic achievement.

Recommendations for Future Research

Because of the statistically significant academic improvement fifth-grade students with learning disabilities demonstrated from pre to posttest due the implementation of the CCC instructional strategy, one recommendation is for principals, administrators, and teachers to explore the benefits of this strategy for students with learning disabilities and cultural differences.

This study focused on one group of students at an elementary school in northeast Georgia, so it is recommended that a larger study be conducted with a larger sample of students from different states and different cultural backgrounds. Future studies examining the impact of CCC across earlier grades would add to the knowledge -base on this intervention and provide information on how this strategy affects achievement of younger elementary students with learning disabilities. Gathering student perceptions of CCC instructional strategies through interviews or open-ended surveys may be beneficial in determining how students feel about the repetitive process of CCC instructional strategies.

Educators should focus on implementing instructional strategies in reading and math that provide higher and lower achieving students the same opportunity to achieve higher grades (Jennings & Sohn, 2014). It is recommended that educators and policy makers focus on the achievement rates of students in states that implement the CCSS and states that have not adopted CCSS to determine if CCSS should be the accountability tool of NCLB. The goal of CCSS is to ensure that all students are achieving the same skills in all states and that the standards are not lowered in order to allow more students to pass the state tests.

Summary

This study examined whether CCC instructional strategies affect academic achievement in math computation skills for fifth-grade students with learning disabilities. Although conclusions from past studies on CCC instructional strategies vary when using CCC instructional strategies alone and when comparing them to other interventions, multiple researchers recommend implementing CCC procedures (Belfiore et al., 2002; Codding et al., 2007; Poncy et al., 2010). Quantitative statistical analyses of differences in scores between pre- and post-test data determined that CCC instructional strategies appear to improve student achievement in math for students with learning disabilities.

Results from this study provide positive evidence that CCC instructional strategies increased student achievement for this sample of students. CCC instructional strategies could provide the confidence that students with learning disabilities need to succeed in math. Additionally, data from this study could encourage teachers to realize how important it is for students to be proficient in math computation skills, which are foundational for success in higher-level math skills and are supported by the Common Core. A good foundation in math may lead to a greater number of students with learning disabilities graduating from high school and may gain the mathematical skills needed to enter rewarding careers.

All teaching and learning strategies need to be investigated if they promise any potential benefits for learners to overcome mathematics. Cover, Copy, and Compare appears to be an effective strategy, especially for students with special needs. This study contributes to positive social change by providing practical classroom strategies that can improve mathematics. By improving basic math skills, more students may elect to take math-related courses and enter rewarding careers.

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Crossing Borders and Building Bridges: A Video Ethnography of Special Education in Nuevo Progresso, Mexico

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Abstract

This paper presents an overview of a video ethnographic study of a special education school on the Texas/Mexico Border. The public school is located in Nuevo Progreso, which is a town in the Río Bravo Municipality in the state of Tamaulipas in Mexico. The town is located on the United States-Mexico border. The Progreso-Nuevo Progreso International Bridge connects the town with Progreso Lakes, Texas. The 2010 census showed a population of 10,178 inhabitants. Both the school and town have very little resources making the creation of the special education school a very special event. For a public school to start a program requires many people (e.g., parents, teachers, school officials, students, and other stakeholders) bringing many resources to the table. One group was able to bring together the people and the resources.

Crossing Borders and Building Bridges: A Video Ethnography of Special Education in Nuevo Progresso, Mexico

"Education is all a matter of building bridges." Ralph Ellison

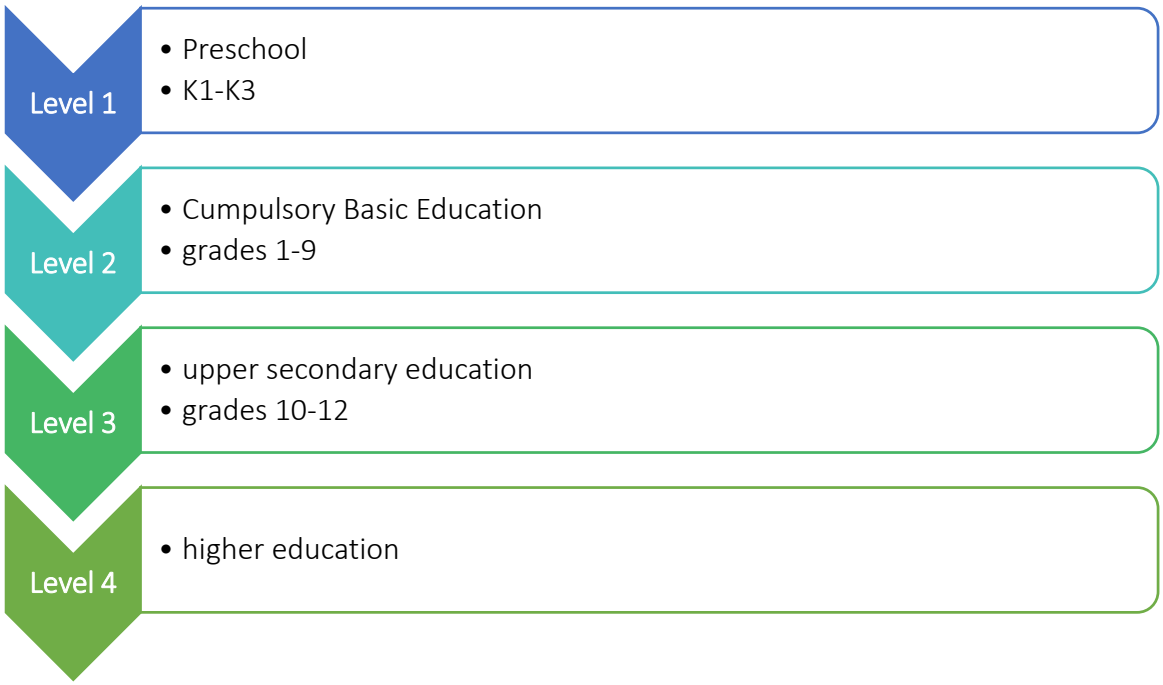
It is temperate morning, slightly humid, the sun disrupts peaceful cotton coated clouds overhead and a set of green t-shirts emerge from their vehicles at a local grocery store. They gather school supplies, cleaning supplies, and building materials as they make their way towards the U.S./Mexico border towards the small town of Nuevo Progresso. The group is known as University of Texas Pan American Student Council for Exceptional Children (SCEC) and for the past nine years they have been adopting a school in the border town of Nuevo Progresso, Mexico that services children with special needs. While the members of SCEC live and go to school only 30 miles away from the Mexico/U.S. border (a quick 30 minute drive) Mexico's public education system is unlike the United States. Over a span of seven months a video ethnography documentary was produced that focused on special education services available at a border school in Nuevo Progresso, Tamaulipas, Mexico. This documentary was used to raise awareness regarding special education in Mexico and as an instructional tool for students who plan to work with children who have special needs. This article will cross several bridges to better understand

Mexico's current education system and provide a new perspective on the uses of video ethnography.

Current Public Education in Mexico

At the national level education in Mexico is governed by the *Secretaria de Educacion* (SEP). According to *Education in Mexico* (2014), sponsored by the William and Flora Hewlett Foundation and conducted by RAND Education, public schools serve 87% of all students in the country and teachers and school administrators have little autonomy in the system.

Mexico's Education System is divided into four levels:



(Santibanez, Vernez, & Razquin, 2005)

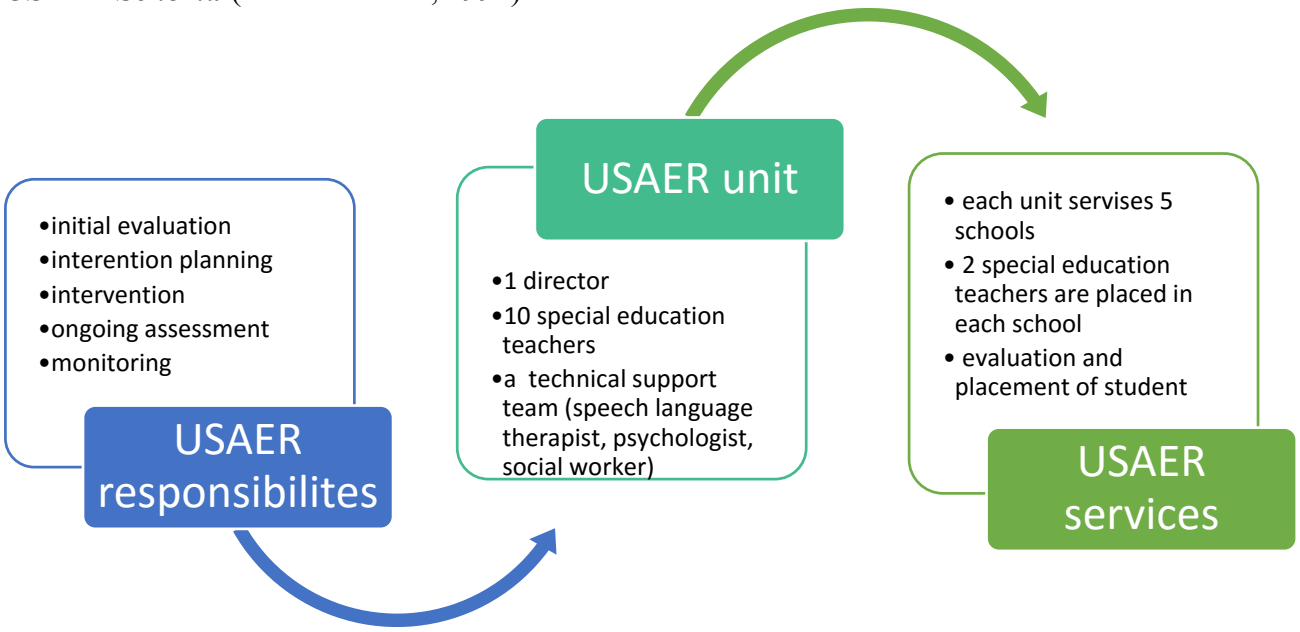
Although the government is also involved at the other three levels through the public provision of preschool and upper secondary as well as public funding of higher education in most states it is only officially responsible for providing the required basic education (grades 1-9) (Organisation for Economic Co-operation and Development, 2013; Santibanez, Vernez, & Razquin, 2005).

There is an estimated 440,000 children with special education needs that receive basic education and 4,246 special education centers (Santibanez, Vernez, & Razquin, 2005). The centers offer two types of services: *Centros de Atencion Multiple* (CAM) (Multiple Attention Centers) and "the integration of children with special education needs in comprehensive classrooms" (Santibanez, Vernez, & Razquin, 2005). After students are identified with special educational needs, depending on evaluation results, they are placed with other students according to their ability (Ramos & Fletcher, 1998).
Number Centers for Special Education (source: OECD, 2013;; Santibanez, Vernez, & Razquin, 2005):

Total Number of Centers: *(including CAMs and USAERs)*	4,246
Number of CAMs:	1,516
Number of USAERs:	2,730

Within the public school there are *Unidades de Servicio para Appoyar la Educacion Regular* (USAER) or support classroom that work with students and their families. The USAER provides technical advice to classroom teachers and provides guidance and orientation to students. The USAER also provides the appropriate personnel in schools that integrate students with special needs into the general education classroom. The USAER may also provide separate special education groups (Santibanez, Vernez, & Razquin, 2005).

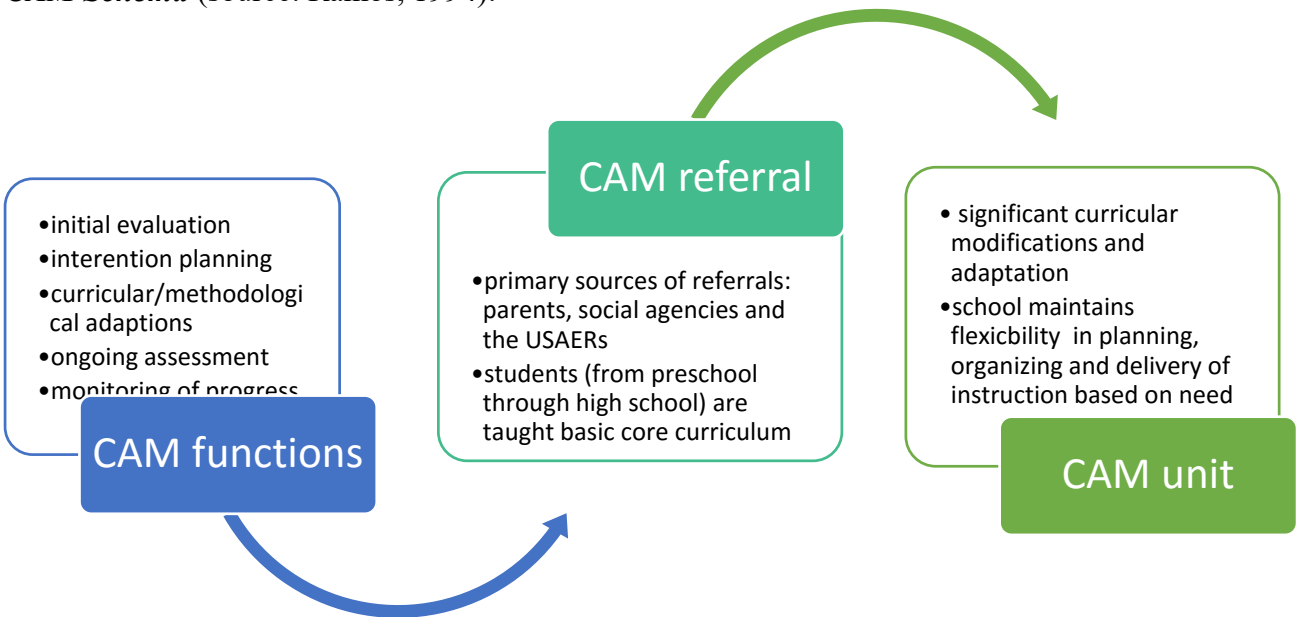
USAER Schema (source: Ramos, 1994):



The Multiple Attention Center (CAM) is designed as an educational institution to replace special education schools, early intervention centers, and centers of professional development which, previously serviced students with severe disabilities (Ramos, 1994). The learning environments of public schools in Mexico are very challenging. The learning time is short: half-day schools are prevalent and many special education students do not attend public schools (Insituto Nacional de Esadistica y Geografia, 2012)

Ramos and Fletcher write that CAMs provide the same core curriculum and quality education to students with disabilities who are unable to be successfully integrated into public schools. The CAMs function like general public school with cross-categorical grouping of students by ability that are taught in classes of about 20 students each (Insituto Nacional de Esadistica y Geografia, 2012).

CAM Schema (source: Ramos, 1994):



The face of special education in Mexico has changed over the years. It has been restructured to provide appropriate services to students based on academic performance. In an effort to better accommodate Mexico's unique population the following educational implications are considered of great importance:

> "Special education no longer subdivides its services by types of disabilities, but rather by educational performance levels and services are provided on the basis of each students leaning capacity. As a result, the field of special education focuses on the special educational needs of children rather than on their disabilities…Successful integration depends in large measure on the on family participation, collaboration between general and special education teachers, the leadership of the principal of each school and the expertise provided by the education personnel you need a reference here."

The Little School That Could

Ford-45 Elementary School, located in border town of Nuevo Progresso, Mexico was built in 1971. Nuevo Progresso is a town in the state of Tamaulipas located on the US/Mexico border. It had six classrooms and a few restrooms. Over the years the school has grown to house 15 classrooms, 400 students in grades preschool to sixth grade, and 20 teachers. Mr. Rodrigo Martinez, the current principal said that despite its setbacks Ford-45 has been a school that integrates students with "different abilities." Throughout the filming process he always referred to children with special needs or disabilities and children with "different abilities" rather than the generalized term "students with special needs or disabilities".

In April 2008 the first Multiple Attention Center (Centro de Atencion Multiple-CAM) in Nuevo Progreso opened its doors to service children with severe learning disabilities and special needs. The first year was filled with setbacks and for the small school and students needed to cross a frequently flooded, unpaved street to get to school. This proved to be an extremely daunting task for children who are in wheelchairs or have difficulty walking. The school also encountered a series of financial hurdles because the public school system in Mexico does not cover 100% of the budgetary needs required to run a CAM. Financing for this exceptional school came through the monetary donations of the community. The state matches all of the funds that are received by members of the community. This particular CAM needed to raise money for basic necessities such as: (a) purchasing the land, (b) air conditioning, (c) building materials, (d) school supplies, and (e) food supplies. Many of the parents provide the food for breakfast and lunch as well as pay for school uniforms. Despite the numerous challenges the director, Angelica Herrera, said "It's a challenge that we face every day but we just have to keep moving forward…We're thankful for everyone's help."

Helping Hands

For the past nine years the Student Council for Exceptional Children (SCEC) has adopted Ford-45 Elementary School. The SCEC chapter consists of student members from the University of Texas-Pan American. Over the years students gather school supplies, furniture, painting supplies, books, and any other need that the school or USAR classroom might need. As the CAM school opened its doors for the first time SCEC was there to provide school supplies and classroom equipment (e.g., shelves, floor mats). SCEC currently adopts the CAM school every year and members travel across the border to deliver the supplies. As the border violence increases it becomes more complicated to travel across the border but members continue to supply the CAM school with the necessary supplies. Parents work alongside educators by providing breakfast and lunch to the students at the CAM. The center has a limited supply of groceries. Parents are often asked to take turns cooking and bringing breakfast and lunch for the students because they currently do not have a working cafeteria. Parents pay for half of their child's tuition and help the teachers by purchasing supplies to ensure that their children receive the appropriate education.

Bridging the Gap Using Video Ethnography

Video ethnography is an extremely powerful technique (Pink, 2013) and comes from the academic discipline of anthropology. According to Pink (2013), "anthropological methods of observation and analysis are used in market research, healthcare, technology, and product design—any field that requires an understanding of people…" When using video the ethnographers' goal is to understand how individuals respond to situations and attribute meaning to the situations (Banks & Ruby, 2011). Video ethnography has the capacity to work alongside other forms of research and support quantitative and qualitative analysis (Pink, 2013).

The University of Technology in Sydney Australia used video ethnography as a means to improve clinical communication within a local intensive care unit (ICU). Video-ethnographic methods were used to provide practitioners the expertise and insight into the dynamics of their own work processes (Stafford, 2006). This current study used video ethnography to increase the understanding and awareness of special education system and practices in Mexico. Investigators

took several trips across the border and collaborated with SCEC (Student Council for Exceptional Children) and the Mexican Border Children's Fund to document interviews with the faculty and staff at Ford-45 Elementary School and the local CAM in Nuevo Progreso, Mexico. Specific children were at each school were interviewed.

Conclusion

The documentary has been shown at several film festivals and conferences. Students, educators, and audience members agreed that the video ethnographic documentary gave them a new perspective of special education in the border town of Nuevo Progreso. Ethnographic studies enhance the researchers', future special education teachers', and community members' understanding of intervention and educational practices in another country. Video Ethnography bridges the gap between learning and experiencing firsthand the natural environment in another country. Further ethnographic studies have the capacity to teach a myriad of pre-service educational skills and give light to numerous educational situations across the country and around the world.

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Evaluating and Using Literature Including People with Disabilities in All Classrooms

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Abstract

To help students see their worlds differently and to expand those views beyond their own backyards, educators can expose them to quality multicultural children's literature. In this article, we focus on a subtopic within the genre of multicultural children's literature: literature including people with disabilities. We chose seven recent texts that fall under this category to evaluate. To evaluate multicultural literature including people with disabilities, Ramsey's (2010) reader criteria were used. Finally, we share three distinct techniques with suggestions for incorporating these texts: reciprocal teaching, literature circles, and critical literacy strategies. These practices can help teachers use the previously reviewed texts effectively in their classrooms.

Evaluating and Using Literature Including People with Disabilities in All Classrooms

For many years, minority groups within the United States were ignored in children's literature. If they did appear in books, their characters were stereotypical, ridiculed, and/or seen as secondary to the main characters (Lynch-Brown & Tomlinson, 2008; Sims Bishop, 2007).

Multicultural literature has no one definition; it can refer to any book about a group of people and their group or individual experience or literature about groups within America who have been overlooked and often ignored by the dominant culture. Temple, Martinez, Yokota and Naylor (2002) wrote that multicultural literature is literature that reflects the multitude of cultural groups within the United States, including but not limited to: religious minorities (such as Amish and Jews); people who live in specific regions of the United States (such as Appalachia); diverse lifestyles (such as families headed by same-sex parents or people with disabilities); and people outside the United States (International Literature). Thus, it is important for educators to include as many different cultures in the literature used in the classroom, because, as Gay (2002) stated, "Teachers' knowledge about and attitudes toward cultural diversity are powerful determinants of learning opportunities and outcomes…" for all students. One form of diversity that has been neglected in children's literature in the past is that of people with disabilities (Blaska, 1996). Multicultural literature should include diverse people with disabilities (Gay, 2002; Liebowitz, 2013).

To help students see their worlds differently and to expand those views beyond their own backyards, educators can expose them to quality multicultural children's literature, including literature appropriately including people with disabilities. Doing this helps accomplish the goals of multicultural education. From looking at literature, educators and children can move to looking at situations in the real world and gain benefits such as:

- Seeing a wider view of their world
- Learning to appreciate other cultures and our differences

- Discovering commonalities within all cultures
- Discussing preconceptions and prejudices often overlooked in a classroom
- Seeing themselves in literature and make connections between what they read and their own lives and experiences
- Increasing respect for all individuals, improves self-efficacy and helps students recognize the contributions of minorities (Landt 2006)

This article will explore the importance of including people with disabilities in children's literature. It will also discuss why it is important that educators know how to evaluate literature that has characters with disabilities as well as provide suggestions for how teachers can do this. Finally, ideas for how teachers can integrate literature with characters with disabilities into the classroom will be discussed.

Literature Including People with Disabilities

In this article, we focus on a subtopic within the genre of multicultural children's literature: literature including people with disabilities. For the most part, characters with disabilities in children's literature have physical, sensory, or cognitive disabilities (Prater, Dyches, & Johnstun, 2006). Blaska (1996) wrote that:

> Perhaps no group has been as overlooked and inaccurately presented in children's books as individuals with disabilities. Most often they were not included in stories and when they were, many negative stereotypes prevailed such as characters who were pitiful or pathetic, evil or superheroes, or a burden and incapable of fully participating in everyday life. Often the difference or disability was the main personality trait emphasized to the reader; not a balance of strengths and weaknesses (p. 11).

The implementation of The Education for All Handicapped Children's Act in 1975 (the precursor of the Individuals with Disabilities Education Act 2004) brought about important changes in the field of literature including people with disabilities. More children with disabilities began attending neighborhood schools, and therefore were in contact with more teachers, students, librarians, readers, and authors. This had a positive influence on literature with the introduction of including more developed characters with disabilities and conditions that were more carefully described (Salem, 2006).

A challenge for teachers can be finding quality literature within this subtopic and then using it effectively in the classroom. For the purposes of this article, we will describe evaluation techniques used with current titles under the topic of literature including people with disabilities, examples from these texts for educators, and then provide some suggestions for the integration of these texts into curricula. The authors chose seven recent texts that fall under the category of literature including people with disabilities to evaluate: *Rules* by Cynthia Lord (2006); *Five Flavors of Dumb* by Antony John (2011); *Out of My Mind* by Sharon Draper (2010); *Somebody Please Tell Me Who I Am* by Harry Mazer and Peter Lerangis (2012); *Mockingbird* by Kathryn Erskine (2010); *Crooked Kind of Perfect* by Linda Urban (2009); and *Wonder* by R. J. Palacio (2012). These texts are classified as middle grades and young adult literature and could be used in upper elementary grades (4^{th}/5^{th}) through high school. Additionally, these texts were chosen

because of their inclusion of various award lists (e.g., Schneider Family Book Award and Notable Books for a Global Society). Incorporating literature with strong characters with disabilities and utilizing this literature to educate students about inclusive education and communities can assist in expanding the perspectives of both educators and students. Such literature can be utilized to teach educational standards related to theme, character, perspective taking, critical inquiry, audience, voice, and many other skills.

Evaluation of Books

It is important for educators to know how to accurately evaluate children's literature for multicultural components. This is because, as Dyches, Prater, and Leininger (2009) stated: "Even though tens of thousands of juvenile books are published annually, not all of them are considered of high quality" (p. 304). Teachers especially need to know how to evaluate literature including people with disabilities, as there is a high risk of negative bias and ideas about people with disabilities being adopted by children if they are regularly exposed to poorly written literature:

> If young children are repeatedly exposed to biased representations through words and pictures, there is a danger that such distortions will become a part of their thinking, especially if reinforced by societal biases (Anti-Defamation League, 2003, p. 1).

Educators are typically familiar with typical components of literature that they need to carefully evaluate, such as story, characters, illustrations, settings, and themes (Anti-Defamation League, 2003; Dyches et al., 2009). However, to accurately evaluate literature about people with disabilities, educators need to have further skills to spot stereotypes, biases, prejudice, and other messages that could be communicated.

To evaluate multicultural literature including people with disabilities, the authors suggest utilizing Ramsey's (2010) reader criteria. These criteria include:

- Authentic representations of the culture
- Balanced between modern and historic views
- Accurate details in both text and illustrations
- Promote positive minority characters
- Adequate representation of culture

Using these criteria, the books were reviewed from two specific perspectives: a higher educator with a background in special education mainly focused on more significant disabilities, and a higher educator with a background in reading, including reading disabilities. Although neither reviewer could be considered an insider of this specific culture (people with disabilities), both have had many years of experience in the classroom with students who have disabilities and have worked to prepare teacher candidates for roles in special education and as reading specialists. As educators the authors believe that utilizing their own educator perspective could be beneficial for other teachers, many of whom will also not be cultural insiders. The sections that follow highlight specific examples of the criterion.

Specific Examples from Literature

Authentic representations of the culture.
Out of My Mind provided authentic representation especially in regards to the culture of those with disabilities. Readers are able to get inside the mind of Melody, the main character who has cerebral palsy. They are privy to Melody's own thoughts and feelings about her disability, her family, her school, and her life, whereas the other characters in the book are, for the most part, excluded. Additionally, a broader understanding of educational situations within the culture of those with disabilities is portrayed. Different types of special educators were introduced and described in working with Melody. The book provided very specific and vivid examples of special educators who left Melody and the other students with disabilities in a restrictive environment all day, bored and being taught non-age appropriate concepts. Then another special educator is introduced, as well as the concept of the students with disabilities joining their age-appropriate peers in a less-restrictive environment. With the help of Melody's own thoughts and opinions, the readers can make value judgments on which educators are "bad" versus "good."

Balanced between modern and historic views.
Authors may find it difficult to accurately balance between modern and historic views when writing about people with disabilities; "disability is marginal as a concept within Multicultural Children's Literature and this negatively affects the perception and use of disability as a crucial component in the United States educational and sociocultural landscape" (Causarano, 2012, p.1). This may be because much of the historical views of those with disabilities were often negative, lacking accuracy, derogatory, and discriminatory. Thus, balancing between those historical views and the ever-expanding modern views is a significant task for those writing fiction that includes characters with disabilities (Dyches, et al., 2009). Modern views continue to be impacted by negative views; thus authors need to avoid such negativity and display well researched and experienced writing related to the varied populations of those with disabilities (Curwood, 2013; Dyches, et al., 2009; Prater, et al., 2006). For example, prior to 1996 when the passing of the Traumatic Brain Injury Act occurred, much less research and understanding was available about the effects of Traumatic Brain Injury (TBI), especially with veterans (Defense Centers of Excellence & Guthrie, 2011). Mazer and Lerangis, the authors of *Somebody Please Tell Me Who I Am*, describe accurate examples of TBI, especially for veterans. By doing this, the authors were able to subtly counteract the historical lack of understanding of TBI via the descriptions of improved and current treatments, therapies, and the main character's experiences with having a TBI via a stream of consciousness voice within the book.

Accurate details in both text and illustrations.
It is apparent when reading *Five Flavors of Dumb, A Crooked Kind of Perfect,* and *Wonder* that the authors conducted a great amount of research to provide accurate details of the disabilities and cultures represented within the books. The author of *Five Flavors* went so far as to consult people who knew about Deaf Culture, and people who are deaf to ensure the details were accurate. Mental illness and its effects on family, most especially on children, were very truthfully detailed in *Crooked*. While the author never defines the mental illness of the main character, (Zoe's father), the reader can sympathize (and perhaps empathize) with Zoe's struggle to be typical. Finally, much research had been completed for *Wonder* in the areas of genetics

(including physical and facial deformities) and the significant cultural components that would affect families and those with physical disabilities similar to the character in the book.

Promote positive minority characters.
Within the subtopic of literature including people with disabilities, we consider minority characters to be those with disabilities. It is important to note that within the greater culture of disability, promoting positive characters who have disabilities has to be done very carefully (Anti-Defamation League, 2003; Dyches et al., 2009). For example, in the past typically those with disabilities were characterized as either pitiful, pathetic, victims, victimizers, or magnanimously heroic (Hollander, 2004). Such characters were not written as typical human beings who were allowed to have a range of emotions, make choices (good or bad) for themselves, and/or exemplified in some way as beyond typical (Hollander, 2004) Even in current literature, authors have to be careful to not portray the character with a disability as too remarkable (super-crip), or too pathetic (Hardin & Hardin, 2004). Authors have to write each character displaying how his/her life and family's lives are a different kind of "typical," rather than someone who is abnormal trying to become "normal" (Curwood, 2013; Dyches, et al., 2009; Hollander, 2004; Prater, et al., 2006). Meeting the current criterion means the authors have to find a specific kind of balance within the literature. *Rules* was written in such a way. The characters in the book with different disabilities are presented as two young men who just happen to each have a disability. Catherine, the sister who is the book's main voice, and both young men are allowed a full range of emotions. Additionally, she is able to explore mixed responses to many different experiences related to disabilities and other adolescent social circumstances.

Adequate representation of culture.
Mockingbird provides adequate representation of different components of adolescent culture, especially when that culture is affected by tragedy. The book displays that, truly, all families can be considered multicultural when dealing with death and grief, as the family micro-culture impacts the greater community macro-culture (Pentaris, n.d.). *Mockingbird* also displays how disability impacts all cultures and areas of diversity including race, ethnicity, socio-economic statuses, types of families, and genders. By utilizing the voice and thoughts of Caitlin, who has Asperger's, *Mockingbird* represents and explores a family culture as it deals with grief and disability. The book also broadens this exploration as it displays how the family and Caitlin interact with the community as a whole.

Books can provide students with a chance to "go beyond a tourist perspective of gaining surface-level information about another culture" (Short, Evans, & Hildebrand, 2011, p. 34). In *Five Flavors of Dumb,* the author does this by helping us understand Piper's membership in the Deaf and hearing cultures. Her abilities are seen as assets: lip reading allows her access to private conversations, and, as a shrewd manager, she uses sign language to obscure her intentions from a crooked promoter. Furthermore, this glimpse into her life shows the many ways Piper communicates to her family members, friends, and teachers (e.g., American Sign Language, speaking, Instant Messaging on the computer, and texting).

What could you learn?

Educators can learn and teach a significant amount about the culture of those with disabilities by integrating well written texts with characters with disabilities. Educators can assist students in interpreting the information they receive while reading these texts to gain educated perspectives on disability and how people could misinterpret the information they receive about people with disabilities because of bias and stereotypes (Prater, et al., 2006). Because authors are displaying more interest in expanded, in-depth characters with disabilities, teachers can assist students in exploring characters' more fully represented personalities, interests, and the multicultural effects of disability on families, communities, friends, schools, and overall culture. Some positive trends in more current children's literature reviewed include the following increased use of:

- Very appropriate Person-First Language
- Varied perspectives on controversial issues
- Inclusive classroom settings
- Increased exploration of stigma, systematic exclusion and discrimination
- Decrease of "super-crip" portrayal of those with disabilities—instead people with disabilities have real lives, with real feelings, who are mixed in variety
- Advocacy exploration
- Including of the varied use of Augmentative Communication (AAC)

See Table 1 for specific examples of what can be learned for different reader populations.

Table 1

Book title	What could students learn?	What could parents learn?	What could educators learn?
Rules	--about more than onetype of disability --what it's like to be the sibling of someone with a disability --augmentative communication with pictures	--good examples of stigmatizing treatment, and non-stigmatizing treatment of people with disabilities	--recognizing needs of whole family
5 Flavors of Dumb	--some basic information about Deaf culture and the issues (controversial and not) that individuals with hearing impairments deal with daily	--interesting perspectives from parents of deaf children and children who are hard of hearing	--how school personnel can be supportive (and not be supportive) to those with sensory losses --The stigma that is assumed about those who

	--that interest of music does not have to be limited because of hearing ability --that people with sensory losses are capable and unique individuals **A lot about rock music		are Deaf or hard of hearing
Out of My Mind	--that all people with disabilities (and kids) are smart --about augmentative communication devices and how assistive technology can help them be friends with those with disabilities --how to, and how not to treat someone with a more significant disability --that we are all people, we all have feelings, and all deserve a chance	--how to assist their child to communicate if their child has a more significant disability (how to recognize their attempts to communicate, and advocate for their need for communication devices) --creating a circle of support --how to advocate at the schools --to see the potential of their child --to set a better example of how adults should treat those with disabilities.	--what examples NOT to be like --GREAT example of a good school paraeducator and teacher in this book (as well as lots of NOT great examples) --how to learn from your students—and be taught by them (i.e. the general education social studies teacher) --how to appropriately provide for inclusive settings, Universal Design for learning, and accessibility to physical environments, learning environments, and social environments for those with disabilities. --to see potential in all students.
Somebody, Please Tell Me Who I Am	--about TBI, how they can occur, what the symptoms can be, what therapy and recovery is like	--about TBI, how they can occur, what the symptoms can be, what therapy and recovery is like	--ideas on how to work with those who have experienced TBI, including supporting students with relationships with those

	--how relationships can be affected because of traumatic brain injuries --how just because someone may not be able to communicate verbally, they are still capable of intelligent thoughts, desires, memories, and so forth --life for veterans	--how relationships can be affected because of traumatic injuries --life for veterans	who have experienced TBI
Mockingbird	-- good book for kids dealing with tough crisis situations -- sibling relations and grief/loss --how to treat/and not treat those with disabilities (bullying) --teaches about sensory input—when there is too much, what might occur—and perhaps what to do.	--explores parental grief as well	--school crisis—gives some good examples of school assistance, and some not so great examples of school assistance.
Crooked Kind of Perfect	--parent/child relationships—especially those where the parent has a mental health problem. --friendship, lack of friendship, etc. --delves into early teenage and adult life situations	--provides perspective from both parents (busy working parent, parent with mental health problem) --provides child perspective	--friendship issues/bullies/teenage angst --parental mental health issues --displays (interestingly) that anyone can find/have a job—but that the job needs to fit them and their needs.
Wonder	--names of facial deformities	--the difference between a physical difference and some other disabilities	--the difference between a physical difference and some other disabilities

	--some information about the complexity of genetics --how to include others who have physical differences --how adults can be helpful in inclusion, and not helpful -- students do not need to be prompted by adults to fully include those with disabilities	--how adults can cause problems with children who may be more capable in inclusion than the adults --variety of multicultural families, function, dysfunction, and caring	--variety of multicultural families, function, dysfunction, and caring, and that paying attention to the needs of children means learning about them and their families (instead of judging the students by how they appear)

What's missing?

Part of evaluating texts is discovering what the writing includes, as well as what components of multicultural understanding may be missing (Anti-Defamation League, 2003; Dyches et al., 2009). While no book can cover all components of a character, there are some trends that we observed within the seven books reviewed of missing perspectives or cultural components. Some of what we found to be missing included:

- Fathers' reactions (e.g., while *Out of My Mind* and *Rules* touched on fathers, neither fully developed their perspectives)
- Severe disabilities
- Stories with multiple disabilities (exceptions: *Rules, Out of My Mind*)
- Varied forms of Assistive Technology
- Characters with autism who are non-verbal
- Students who have mental illness themselves (rather than a parent or sibling having one)
- Unhappy endings (*Out of My Mind* is the only book that ends in very realistic and unorganized way, which could leave readers questioning how the main character was treated, why the story ended the way it did, and perhaps give them a better opportunity to critically analyze and learn from the book.)

Teaching with Literature Including People with Disabilities

Educators often focus on literature in areas of diversity such as race, ethnicity, socio-economic status, and religion; however disability is not always as easily identified as a component of multicultural literature to be included regularly in classrooms. The Banks' Five Dimensions of Multicultural Education (1998) argues that gaining different perspectives via knowledge construction, reducing prejudice toward all whom attend school, and empowering school culture and social structure should include all learners. Although much literature in the past has included characters with disabilities, educators may not have focused on these characters as part of the educational experiences students had with literature. As mentioned previously, incorporating literature with strong characters with disabilities, and utilizing this literature to educate students

about inclusive education and communities, can assist in expanding both educators' and students' perspectives. Such literature can be utilized to teach educational standards related to theme, character, perspective taking, critical inquiry, audience, voice, and many other skills. These standards, skills, and incorporation of the Banks' model (1998) can be taught via many teaching methods and techniques. In this article we share three distinct techniques with suggestions for incorporating these texts: reciprocal teaching, literature circles, and critical literacy strategies. These practices can help teachers use the previously reviewed texts effectively in their classrooms.

Reciprocal Teaching

Reciprocal teaching at its very basic level "is an instructional method designed to help teach reading comprehension skills to students…During initial instructional sessions, the teacher introduces four comprehension strategies: summarizing, questioning, clarifying, and predicting" (US Department of Education & Institution of Education Sciences, 2013, p. 1). Teachers build these four comprehension strategies by activating student's prior knowledge; monitoring, guiding, and encouraging students to utilize the comprehension strategies during reading; and after reading, encouraging student reflection both on the story and strategies the students utilized while reading (Stricklin, 2011). Educators using reciprocal teaching can expand student's comprehension and use of the strategies via visual and hands-on tools such as charts, bookmarks, paper plate dials, props, sticky notes, sentence starters, and graphic organizers (Stricklin, 2011). The most important part of utilizing reciprocal teaching is that students learn to use comprehension strategies while reading (Pilonieta & Medina, 2009). Reciprocal teaching can also be successful by pairing students to utilize peer tutoring (Iserbyt, Elen, & Behets, 2010).

Reciprocal teaching can be a means of engaging learners in texts including people with disabilities. For example, *Out of My Mind* can be utilized via reciprocal teaching techniques to strengthen student's comprehension skills. As this book is written in the voice of a character who speaks only via an augmentative communication device (AAC), students would have to expand their comprehension through questioning to find out what such a device is and how one works. Students would have to clarify and summarize throughout the book to follow the different parts of the story including the different characters, classmates, and important people in Melody's life. Finally, students could practice predicting as the story takes some unexpected turns which may surprise students and expand their understanding of social issues in schools, classrooms, communities, and their own lives. Other books discussed in this article could also be used with the reciprocal teaching techniques to help students learn and use comprehension strategies.

Literature Circles

Literature circles "provide a way for students to engage in critical thinking and reflection as they read, discuss, and respond to books or other reading materials" (Cavanaugh, 2006, p.3) through processes that include engagement, choice, responsibility, and research (Daniels, 2006). Students are typically provided opportunities via literature circles to practice self-determination by self-selecting the literature groups study and are also expected to complete specific roles and responsibilities while in their circles (Blum, Lipsett, & Yocom, 2002). Some roles may include "discussion leader, vocabulary enricher, illustrator, and connector" (p. 100). Data on student's comprehension, higher level thinking, and writing related to their reading can be gathered

throughout the literature circle processes by educators. For example, *Wonder* could be a good book for students to read and discuss within literature circles, as the author utilizes many characters' voices throughout the book, the book explores many social circumstances and topics important to youth and adolescents, and students could practice critical inquiry while reading to discuss in depth the many multicultural issues throughout the story.

Books with strong characters that have disabilities can be great options for teachers when utilizing literature circles. Research has shown that literature circles can be a positive way to assist students in leading their own discussions about varied topics related to literature, including social class, roles, and other themes (Cavanaugh, 2006). Some student discussions may need to be guided and carefully observed by teachers who have educated themselves to the related themes in the texts to assist students in discussing and exploring them fully and without reinforcing bias, stereotypes, or prejudice (Thein, Guise, & Sloan, 2011). Well-executed literature circles can also be a means for including students from all multicultural backgrounds, including English Language Learners (ELL) and students with a range of disabilities (Blum, Lipsett, & Yocom, 2002; Cavanaugh, 2006; Farris, Nelson, & L'Allier, 2007). Thus, incorporating books about characters with varied disabilities can expand student's own backgrounds, interests, and learning needs.

Critical Literacy Practices

In order for students to explore texts that include people with disabilities on a deeper level, we suggest using the five critical literacy practices described by Ciardiello (2004). They include examining multiple perspectives, finding an authentic voice, recognizing social barriers and overcoming borders of separation, regaining one's identity and listening and responding to "the call of service" (p. 138). The goal of these practices is to enable students to have critical conversations and become conscious consumers of texts.

Examining multiple perspectives is an important element to critical literacy. By analyzing the perspectives, students are able to recognize that information within texts can be construed from many viewpoints and not just the ones present in the literature. It also helps students identify those perspectives which are not present and consider why they are missing. Students can take this one step further by assuming the role of different characters throughout the book in a "hot seat" activity. Finding an authentic voice refers to recognizing those who are able to express themselves freely in the text. Essentially this means identifying who has been silenced and who has been supported within the text. Recognizing social barriers and overcoming borders of separation allows students the chance to identify those characters and characteristics which society positions as acceptable and valuable. By moving past these social boundaries, students can learn to appreciate our society's mix of citizens and cultures. Students can consider what social barriers exist in today's society and how we may overcome them in our own communities. Educators could utilize many of the texts reviewed, including *Five Flavors* to explore multiple perspectives such as those with in the hearing culture, Deaf culture, Rock music culture, socioeconomic status, and other perspectives intertwined throughout the story.

A further component of critical literacy practices is regaining one's identity, which occurs when someone is able to strip away the layers of prejudice and oppression that have dominated one's self-image. For example from *Five Flavors*, students could explore the layers of prejudice and

oppression that has occurred to members of Deaf Culture within the hearing culture. Until this time, one may believe the dominant group's position through the process of internalized oppression. This can open the door for discussion into how different people are treated within both local and global societies. Students can record instances of insensitive or callous behaviors and remarks they witness throughout the week and share them as a class. What do these instances say about our society?

The final critical literacy practice involves listening and responding to "the call of service" which requires that students assume civic responsibility. Students need to be aware of how they impact society. All of the texts provide strong examples of characters that took control of their situations and acted accordingly. Some questions for educators to use within discussions when utilizing texts that include people with disabilities may include: Do students see people in their community who don't have a voice or aren't heard? What can they do about the situation? How can students take an active role in making our society a more socially just and peaceful place to live?

Final Thoughts

Dr. Katherine Schneider, founder of the Schneider Family Book Award which is an award that focuses on literature with strong characters with disabilities, had this to say about books portraying people with disabilities:

> They're stories about people and the people with disabilities in them are not super heroes, they are just people. I think it helps kids without disabilities to understand what life is like with a disability. And the more they understand, the less they'll avoid their classmate who has a disability (as quoted by Sullivan, 2011).

The recently published books evaluated in this article and the teaching strategies shared can be an important starting point for educators while learning about and teaching texts including people with disabilities. Children's literature specifically focused on these characters can be one tool teachers can use to promote awareness, understanding, and acceptance of diverse students with disabilities (Prater, et al., 2006).

The ever-expanding definitions of multicultural literature within education is important for all educators to understand and incorporate into their classrooms, especially within the literature used when teaching academic, content, and social knowledge (Gay, 2002; Liebowitz, 2013). The more recently published juvenile literature reviewed in this article are good examples of literature including people with disabilities that could be used by educators to teach using methods such as reciprocal teaching, literacy circles, and critical literacy strategies. The evaluations of these texts exemplify to educators how important it is to understand how to adequately appraise books that include people with disabilities. Finally, utilizing well-written texts that include people with disabilities can be a way to successfully engage readers because of the expansive backgrounds such literature can involve. As Causarano (2012) states:

> If educators are ready to embrace this challenge [incorporating literature that includes people with disabilities], students in American schools will have the opportunity to see

individuals with disabilities as an integral and systematic part of the diversity landscape (p. 12).

By utilizing the ideas and suggestions in this article, educators can better include all students and assist them to gain a broader view of literature and diversity.

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A Pilot Examination of the Adapted Protocol for Classroom Pivotal Response Teaching

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Abstract

Pivotal Response Training (PRT) is a naturalistic, behavioral intervention with a strong evidence-base that is designed to increase generalization and maintenance of responding in children with ASD. Although special education teachers report using PRT, little research to date has examined PRT use in the context of community school programs. There is some research to support that teachers have challenges implementing PRT with fidelity in the classroom. To address this issue, a research community partnership was used to adapt PRT specifically for classroom environments. The pilot project used a multiple baseline design across training groups to examine 20 teachers' use of Classroom Pivotal Response Teaching (CPRT) with students with ASD in special education settings. Results indicated that teachers learned the strategies after a relatively brief training period that included coaching, were satisfied with the training and adapted materials, and that use of CPRT was associated with improved student engagement.

A Pilot Examination of the Adapted Protocol for Classroom Pivotal Response Teaching

Recent reviews of the literature for children with autism spectrum disorders (ASD) have identified several evidence-based practices that may be efficacious with this population (National Research Council, 2001; Odom, Collet-Klingenberg, Rogers, & Hatton, 2010; National Standards Project, 2009; Rogers & Vismara, 2008; Wong et al., 2014). Pivotal Response Training (PRT) is one practice that has been acknowledged as evidence-based for teaching a variety of skills relevant to ASD including symbolic and sociodramatic play, self-initiations, and joint attention. Several independent reviews of the research for use of PRT recommend it as an efficacious intervention (Humphries, 2003; Odom et al., 2010; National Standards Project, 2009; Simpson, 2005; Verschuur, Didden, Lang, Sigafoos, & Huskens, 2014; Wong et al., 2014).

PRT is a naturalistic, behavioral intervention designed to increase generalization and maintenance of responding in children with ASD. The "pivotal" responses trained in PRT are *motivation, initiation* and *responsivity to multiple cues* (i.e. increasing breadth of attention). Specific components include providing clear and appropriate instructions, sharing control with the child, interspersing maintenance (i.e., already mastered) tasks and acquisition (more difficult) tasks, requiring responding to multiple aspects of items in the environment (e.g., color and shape), providing contingent consequences, reinforcing goal directed attempts at correct responding, and providing reinforcement directly related to behavior. While research highlights

the efficacy of PRT as an appropriate teaching tool for education programs (Koegel, Openden, Fredeen, & Koegel, 2006), parents or clinicians working one-on-one with a child with ASD in highly controlled settings have been the implementers in most PRT efficacy studies.
Very little research to date has examined PRT use in the context of community school programs (Stahmer, Collings, & Palinkas, 2005). This is important because large-scale research in the United States indicates that children with ASD are likely to receive school-based services as a primary intervention service (Mandell, Walrath, Manteuffel, Sgro, & Pinto-Martin, 2005). Though limited, evidence on how teachers implement PRT indicates modification of the protocol (Stahmer, 2005) and low fidelity (Suhrheinrich, Stahmer, & Schreibman, 2007). Some recent studies have indicated that PRT may be more challenging to implement in classroom settings. For example, in a recent study examining implementation of a comprehensive program for children with ASD that included PRT along with more structured interventions, researchers found that teachers were less likely to implement PRT than more structured interventions early in training. When they did begin using PRT consistently, it was challenging for them to meet fidelity of implementation criteria (Stahmer et al., 2015). It is possible that teachers have difficulty with specific components of PRT that are not well-suited to the classroom environment. Recent data indicate that teachers may consistently leave out some components of PRT, thus reducing overall implementation fidelity of the intervention (Suhrheinrich et al., 2013).

These findings are not unexpected as the traditional unidirectional method of translation of evidence-based practices (EBPs) from research to practice is not likely to be effective. Research in other areas of child psychotherapy indicates that outcomes may not be as positive as initial studies when EBPs are used in community settings (Kurtines, Silverman, & Hoagwood, 2004; Weisz, Donenberg, Han, & Weiss, 1995). There is clear evidence that "simply creating an inventory of evidence-based treatments will not result in their broad implementation in practice." (National Advisory Mental Health Council's Services Research and Clinical Epidemiology Workgroup, 2006). Rather, EBPs need to be adapted in collaboration with community members to fit the appropriate context.

To that end, an earlier study utilized a collaborative approach to adapt PRT for use in public school classrooms. Qualitative and quantitative methods were used to examine the use of PRT in the classroom, obtain information from teachers about their use of PRT, and to test adaptations to the protocol designed to enhance fidelity in the classroom. Feedback from special education teachers indicated general support for PRT, with teachers finding the approach intuitive and effective; however, certain components of the intervention were challenging to implement in the classroom (Stahmer, Suhrheinrich, Reed, & Schreibman, 2012). There were several components the teachers valued and found easy to implement and those did not require adaptation. Some components were valued but difficult to implement, indicating a need for improved training or modifications to the component to ensure appropriate implementation. Two areas were reported by teachers to be both not valued and difficult to implement: taking turns and responsivity to multiple cues. Observational studies of the use of PRT in special education classroom by teachers trained in PRT confirmed teacher report that these elements were especially difficult to use, as evidenced by teacher difficulty reaching fidelity on these components (Suhrheinrich et al., 2013).

Confirmation studies were then conducted to examine the necessity of these two difficult components. Specifically, teachers reported that the multiple cues component was not developmentally appropriate for all of their students (Stahmer et al., 2012). An examination of the acquisition of simple simultaneous conditional discriminations (color and shape) in typically developing children indicated that this skill is not fully developed until 36 months of age, at which time typically developing children are consistently able to respond to two aspects of one item in making discriminations (Reed, Stahmer, Suhrheinrich, & Schreibman, 2013). An additional study indicated that a majority of children diagnosed with ASD did not have difficulty with these discriminations either (Rieth, Stahmer, Suhrheinrich, & Schreibman, 2015). Similarly, an examination of turn taking indicated that teacher use of different types of turns may interact with child developmental level and target skills (i.e., object play, requesting commenting) to affect child responding (Rieth et al., 2014).

In our prior study, special education teachers participating in focus groups asked for specific materials to assist them with implementation in the classroom, such as examples of how to use PRT in group activities, methods to address individualized education plan (IEP) goals and specific curriculum areas using PRT, data collection forms and materials for training paraprofessionals in PRT. Training materials were developed based on teacher input, and in collaboration with teachers and administrators. An advisory board assisted in developing real-world examples of how to use the strategies in schools serving children with ASD. The adapted program is called Classroom Pivotal Response Teaching (CPRT) to distinguish it from the traditional model (Stahmer, Suhrheinrich, Reed, Bolduc, & Schreibman, 2011).

The purpose of the present study is to conduct an examination of the feasibility of implementation of CPRT by public school teachers serving children with ASD in the classroom. The specific aims of the project are to (1) examine teacher fidelity of implementation to CPRT during classroom implementation; (2) to examine teacher satisfaction with the CPRT methods and training materials; (3) preliminarily examine student outcomes after CPRT implementation.

Method

Participants

Teachers. Participants included 20 teachers working in preschool to 3rd grade special education classrooms serving children with ASD in Southern California. Teachers participated in one of four training groups, grouped by school district and availability. Teachers met the following inclusion criteria: (a) a full or part-time position as a teacher in a special education classroom, (b) at least two students with a primary educational classification of autism who had parental consent to participate in this study, and (c) no prior training in CPRT.

Teacher demographics by training group are provided in Table 1. As a group, nineteen teachers were female, one was male. Teachers ranged in age from 24 to 52 years (M = 36.69). Seventy percent held Masters Degrees or were enrolled in Masters programs, and three teachers participated in an autism-specific Masters program. They had an average of 8.15 years of experience teaching special education (2 to 13 years) and an average of 7.46 years of experience working with children with ASD (3 to 17 years). Six teachers were Hispanic or Latino (30%), 2 were Asian/Pacific Islander (10%) and the rest were Caucasian non-Hispanic (50%). Thirty

percent of teachers worked in autism specific classrooms serving exclusively children with autism, 65% of teachers had cross-categorical special education classrooms and 5% were resource teachers working with students from a variety of classrooms. Sixty percent of the teachers had preschool classrooms and 40% served children ages 5-9. Sixty-five percent of teachers (n = 12) reported having some familiarity or training with the original PRT model, however none reported it as the primary intervention used in their classroom. If they reported using it often in the classroom (n = 5), they indicated that they used parts of the intervention integrated with other strategies. In terms of training, five teachers had attended a two day conference specific to PRT (didactic only), 2 had attended a 1-hour workshop in their district, four reported receiving "on the job" training from a supervisor or autism specialist, and one reported watching a video on the use of PRT strategies.

Table 1
Teacher Demographics by Training Group

	Training Group				
Teacher Characteristic	1 (n=6)	2 (n=4)	3 (n=5)	4 (n=5)	Total (n = 20)
Age in years (M) (Range)	45.67 (29-17)	34.75 (27-52)	31.75 (25-36)	34.60 (24-41)	36.69 (24-52)
Highest Education Level (% of group)					
Associate Degree	17				5
Bachelor of Arts	17			20	10
Masters of Arts	50	75	60	75	60
Enrolled in MA	17		20		10
Teaching Cred		75	60	20	45
Teaching experience (years)					
M (Range)	7.8 (3-11)	8 (2-13)	7.8 (3-10)	9 (2-12)	8.15 (2-13)
Experience in ASD (years)					
M (Range)	5.5 (3-10)	7.75 (3-13)	7 (6-10)	9.6 (4-17)	7.46 (3-17)
Race/Ethnicity (% of group)					
Hispanic	50	25	0	20	20
Asian/Pacific Is.	0	0	40	0	10
Caucasian	100	100	60	100	90
Classroom age group (% of group)					

Preschool (3-5yr)	66	75	60	40	60
Elemen. (5-9yr)	33	25	40	60	40
Classroom type (% of group)					
Autism Only	50			60	30
Cross Categorical	50	75	100	40	65
Resource		25			5
PRT familiarity/use (% of group)					
Familiar w/ PRT	100	25	40	80	65
PRT as primary	0	0	0	0	0
PRT: Use parts	33	0	20	50	25

Students. Forty students were enrolled in the current project. Three students moved from their teacher's classroom during the course of the study and data collection was discontinued for these participants. Students met the following inclusion criteria: (a) a primary educational classification of autism, and (b) a chronological age of three to nine years. This age group was chosen because it has been the focus of the majority of the evidence supporting PRT. Each teacher selected two students, and parental consent was gathered. *The Autism Diagnostic Observation Scale* (ADOS) was conducted to confirm the presence of symptoms of an autism spectrum disorder. On the ADOS, 32 children met the Autistic Disorder cut off, 6 met criteria for ASD and 2 were categorized as non-spectrum. The average student age was 5 years 5 months (range = 3 years 2 months to 9 years 6 months). Students displayed a wide range of communicative functioning examined through standard scores on the Preschool Language Scales 4th Edition. The average auditory comprehension standard score was 62.44 (range = 50-148) and mean expressive communication was 59.81 (range = 50-150). Average expressive communication age equivalence was 31 months, with a range of 3-81 months. A majority of students (97%) had verbal ages of less than 36 months, and/or successfully completed a simple conditional discrimination task (see below). Because the focus of the study was on teacher implementation of CPRT, we did not ask the parents to complete any information beyond the consent form. Therefore, additional demographic information on student participants is not available.

Research Design

This study employed a single-subject, multiple baseline design across four training groups. This type of design has the advantage of controlling for developmental maturation and exposure to the treatment (Kazdin, 1982; Kratochwill et al., 2010). Training groups consisted of 4-6 teachers, and 8-12 students each. Each group participated in a baseline condition for 3-6 sessions, determined a priori according to the design. Because this was a community implementation

study designed to examine response to training in CPRT, time was the criteria used to advance groups from baseline to training. This ensured the entire group of teachers in each district could participate in the group training together. Weekly data collection began at the start of baseline and continued through treatment. Teachers were filmed twice per week (total of 19-22 observations). Data were also obtained during a single observation after a 2-month follow-up period.

CPRT Intervention

CPRT is based on the principles of applied behavior analysis (ABA), which are soundly supported in the scientific literature (National Research Council, 2001). The original PRT program, and thus CPRT, was designed based on a series of empirical studies identifying important treatment components that address "pivotal" areas of development affecting a wide range of functioning for children with ASD. CPRT was developed to reflect adaptations and applicability to the classroom while maintaining all the fundamental components of PRT. Specific modifications based on qualitative and quantitative data include: (1) Recommending that conditional discrimination training only be conducted with students with a cognitive age over 3 years (Reed et al., 2013). (2) Emphasizing the use of multiple exemplars rather than conditional discrimination training (Rieth et al., 2015) and providing recommendations for determining when to provide discrimination training. (3) Describing methods of using a token system to provide direct reinforcement. (4) Providing strategies for differential use of turns based on language level and target skills, and methods for facilitating turns between students (Rieth et al., 2014) and (5) Providing examples and recommendations for using CPRT with groups of students. Teachers requested a variety of resources to assist with overcoming barriers to using the intervention in the classroom and these are included in the CPRT manual and training materials. Specific resources requested by teachers include: (1) basic background information about ABA in general; (2) description of the theory behind each CPRT component; (3) examples of how to target IEP goals and curriculum areas using CPRT; (4) adaptable data collection materials; (5) paraprofessional training materials; and (6) materials to facilitate communication about CPRT and student progress with parents. In addition, we developed a CPRT logo, had the manual professionally edited, and developed a training DVD. More details regarding the adaptation of the PRT procedures and development of materials can be found in (Schreibman, Suhrheinrich, Stahmer, & Reed, 2012; Stahmer et al., 2012). A complete description of CPRT can be found in (Stahmer et al., 2011).

Teacher Training

Teachers were trained by the principal investigators, both of whom had several years of experience using and training others in the traditional PRT model. After each group completed baseline, training began. Teachers received 12 hours of group instruction (6 weekly 2-hour sessions) in the use of CPRT in the classroom including lecture material, video examples, case illustrations, hands-on practice with feedback and group discussion. The specific topics covered in each session are as follows: (1) Learning Your ABCs – An introduction to behavioral principles as the foundation for CPRT, (2) The Components of CPRT, (3) Modeling and practice with students (hands-on practice with feedback session), (4) Using CPRT in Groups and Goal Setting, (5) Data Collection, (6) Training Others in CPRT. Sessions 3 involved hands-on practice with coaching in the context of the group. Between session activities included practice using CPRT and curriculum materials in the classroom. A complete curriculum for the training

including PowerPoint presentations, group activities, coaching procedures etc. can be obtained from the authors.

After training was complete, coaching began, with each participating teacher in his or her own classroom with his or her own students. Training continued for 2-3 sessions, until each teacher reached a mastery criterion for CPRT (see assessments below) or the school year ended. After a participant reached the criteria for mastery of CPRT, a 2 month follow-up condition began. During the follow-up period, the teacher did not receive additional feedback or training.

Assessments

Teacher assessments

Demographics. Teacher demographics such as experience in special education and autism, classroom classification, education, race/ethnicity and age were collected at intake using a questionnaire developed for the project.

Report of use. Teachers were asked to complete a survey (developed by the research team) reporting their use of CPRT in their classroom each week after training began. For the previous week, they reported on the number of days they used CPRT, the number of minutes per day they used CPRT, activities in which CPRT was used, and who implemented CPRT (e.g., teacher or paraprofessionals).

Satisfaction. Teachers and paraprofessionals completed a satisfaction questionnaire addressing general issues of comprehension of the intervention as well as areas of difficulty in applying CPRT in the classroom. This survey was developed by the research team for this project. Teachers rated the quality of the training, their trainer's ability to answer questions, deliver the information, implement CPRT and understand classroom implementation issues, their own ability to use CPRT after training, the organization and structure of training and coaching, the CPRT manual, and whether or not they were still using CPRT and/or CPRT data collection materials on a 1-5 Likert scale (1 = *very dissatisfied*; 5 = *very satisfied*). The questionnaire was completed after follow-up video samples were taken.

Fidelity of implementation. Prior to beginning the baseline phase, teachers chose two activities in collaboration with the research team they felt to be appropriate for CPRT (based on a general description of the intervention) with their students and classroom schedule. Activities were a small group or one-to-one format and either play-based or academic in nature. This procedure was used to ensure external validity of the procedures in typical classrooms. These activities were video recorded by a research assistant on a weekly basis. Video observations were coded to assess the teachers' fidelity of implementation of CPRT. Research assistants, who were blind to the research hypotheses and teachers' training group/timeline, were trained to code the video samples using a set of behavioral definitions for fidelity of each component of CPRT (see Table 2 for Scoring Criteria and Table 3 for abbreviated definitions; complete definitions are available from the authors). The fidelity coding system was developed by the authors, based on the original PRT fidelity coding and changes made to the protocol for classroom use.

Table 2
Fidelity of Implementation Score Criteria

Score	Description
1	Teacher does not implement during session or never implements appropriately.
2	Teacher implements competently occasionally, but misses the majority of opportunities.
3	Teacher implements competently up to half of the time, but misses many opportunities.
4	Teacher implements competently more than half of the time, but misses some opportunities.
5	Teacher implements competently throughout the session.

Table 3
Fidelity of Implementation: Component Descriptions

Component	Component Definition
Teacher Maximizes Student Motivation	
Incorporates student choice into activity	The teacher follows the students' interest in materials, toys, or activity by providing choices, either within or between activities, as a way to determine the students' interest or engage the group.
Takes turns by modeling appropriate behavior	The teacher takes or facilitates turns in the activity, including modeling (or peer modeling) developmentally appropriate behavior.
Presents opportunities at various levels (maintenance/acquisition)	The teacher should clearly intersperse tasks that are easy with tasks that are difficult for the target students.
Teacher Facilitates Student Responding	
Gains student attention before providing a cue	The students are attending to the teacher *before* the teacher presents a cue. In a group situation, the majority of students should be attending when a whole-group cue is presented.
Provides clear and developmentally appropriate cues	A clear cue indicates to the students how they should respond and is at or slightly above the students' response level. In a group situation, the cue should be clear to the least advanced student in the group. The teacher may also adjust the cues to the various ability levels in the group, or provide additional support for some students.
Teacher Provides Appropriate Consequences	

Provides appropriate consequences based on student behavior (contingent)	The teacher should provide consequences that are dependent on the student's behavior *immediately* after the response. If the students do not respond appropriately, the teacher withholds reinforcement. The teacher may appropriately reinforce brief chains of responses.
Provides reinforcement directly related to the activity	The teacher uses rewards that are directly related to the teaching activity. If the teacher is using a token system, the final reward for which the tokens are exchanged should be related to the activity.
Reinforces the student's goal-directed attempts	The teacher provides reinforcement after most of the students' reasonable, goal-directed attempts (good trying)

The research team established correct codes for a subset of videos through consensus coding (keys). Each research assistant coder then was required to achieve 80% reliability across two keys before coding independently. One-third of all videos were double coded to ensure ongoing reliability of data coding throughout the duration of the project. If there was less than 80% agreement between the reliability coder and the research assistant, additional training and coaching were provided until criterion was achieved and previous videos were re-coded. Coders observed the activity in the teacher selected for observation. Coders rated the use of each component of CPRT on 1-5 Likert scale after viewing the entire clip. A score of one indicated the teacher did not use the strategy during the session or never implemented it correctly. A score of five indicated the teacher implemented the component competently throughout the segment. In order to meet fidelity of implementation on a component, teachers needed to receive a score of 4 (implements the component competently about 80% of the time, but misses some opportunities) or 5 (implements the component competently throughout the session). The Likert coding system was developed as part of a larger effort to adapt fidelity of implementation assessment procedures for feasibility in clinical settings and has been used in previous studies (Suhrheinrich et al., 2013). Coding involved direct computer entry while viewing the video using "The Observer Video-Pro" software (Noldus Information Technology, Inc.), a computerized system for collection, analysis and management of observational data.

Student assessments.

Eligibility category. The eligibility category was assigned by the schools and determined by the eligibility criteria on the child's IEP.

Symptom severity. Each child received the *Autism Diagnostic Observation Scale* (ADOS; Lord et al., 2000), a standardized protocol for observation of social and communicative behavior associated with autism, to confirm diagnosis. It has been shown to have high reliability and discriminant validity. The ADOS was used at intake to provide a research-based description of autism severity in the sample.

Communication. Intake communication levels were examined using the Preschool Language Scales-4 (PLS-4; Zimmerman, Steiner, & Pond, 2002). The PLS-4 assesses a child's auditory

comprehension (attention, semantics, structure, and integrative thinking) and expressive communication (vocal development, social communication, semantics, structure, and integrative thinking). The standardization sample included 1,200 children, ages 2 weeks to 6 years, 11 months, from the United States. The sample was stratified by parent education level, geographic region, and race, in order to represent the U.S. population. The assessment provides standard scores for Auditory Comprehension, Expressive Communication, and Total Language. The PLS was used to characterized communication skills in the sample.

Engagement. Classroom video samples were continuously coded for student engagement by direct computer entry using "The Observer Video-Pro" software (Noldus Information Technology, Inc.). Coding took place for one student (target student) at a time. The target student was required to be on camera for scoring to take place. If a target student was off camera for over 5 seconds, coding was paused. Coding resumed once the target student re-entered the camera's view. Multiple types of student engagement were scored. Engagement codes included: (1) *active*, e.g. the student is engaged in a class activity or engaged appropriately with instructor (2) *passive*, e.g. the student is watching as the instructor presents materials or as the teacher or a peer is taking a turn with the materials (3) *waiting*, e.g. the student is waiting for the next activity to start (4) *object*, the student is independently engaged with an object (5) *peer*, e.g., the student is engaging appropriately with a peer (including playing, talking, gesturing to) independently or with adult facilitation, and (6) *inappropriate*, e.g. student behavior is disrupting the teaching activity. Complete student engagement definitions are available from the authors.

Multiple cues assessment. Each student completed a discrimination learning assessment modeled after simultaneous discrimination paradigms designed to assess response to conditional discriminations (Ploog & Kim, 2007; Schover & Newsom, 1976). A detailed description of the multiple cues assessment utilized in this study can be found in (Reed et al., 2013).

Procedure

Teacher recruitment. Special Education directors in San Diego County school districts serving children with autism were contacted via email. Potential study participants (teachers) were identified by district Special Education directors. Interested teachers with at least 2 students with a primary educational diagnosis of ASD and no prior training in CPRT were recruited.

Student recruitment. Student participants were recruited through the participating teachers who sent home a flyer regarding participation. All teachers enrolled 2 students. Three teachers had only on student by the end of training due to student changes in classroom placement and/or family movement out of the area.

Video collection and coding for dependent measures. Video samples of each participant working in the classroom with his or her students were collected semi-weekly during baseline and weekly during treatment and follow-up phases. Each teacher selected two activities for filming in their entirety (e.g., small group activity, language arts) which were kept consistent throughout the study.

Intake assessments. Intake assessments were completed by teachers and parents; student testing was conducted prior to beginning baseline.

Baseline. The research team conducted video recordings of teachers during the chosen activities semi-weekly. The length of the baseline varied by training group based on design.

Teacher training and coaching. Once baseline for each group was completed, didactic training began. Teachers in each district were grouped together. A training time convenient for all of the teachers and approved by participating district directors was chosen. Three groups completed the training during regular work hours on student early release days and two groups completed the training after school. Coaching was conducted at a time scheduled with the teacher during the activities chosen for the project. Coaching involved the coach observing the activity, coding fidelity of implementation of CPRT, and providing feedback to the teacher using a standardized format that included describing what the teacher did well, areas of suggested improvement and eliciting questions from the teacher. Coaching sessions typically lasted 30-45 minutes. Teachers could ask questions regarding the use of CPRT or ask the coach to model the strategies with their students in the context of their activities.

Follow up assessments. Two months after the last coaching session, a final classroom observation was conducted. Teachers, parents and children repeated intake assessments to examine potential changes.

Data Analysis

Visual inspection was used to examine differences between the baseline, treatment and follow-up conditions. In addition, the Percentage of Data Points Exceeding the Mean (PEM; Ma, 2006) was used to examine differences from baseline to treatment for both fidelity of implementation and engagement. In accordance with PEM analyses, the median point at baseline was used to calculate the percentage of treatment phase data points above the median line.

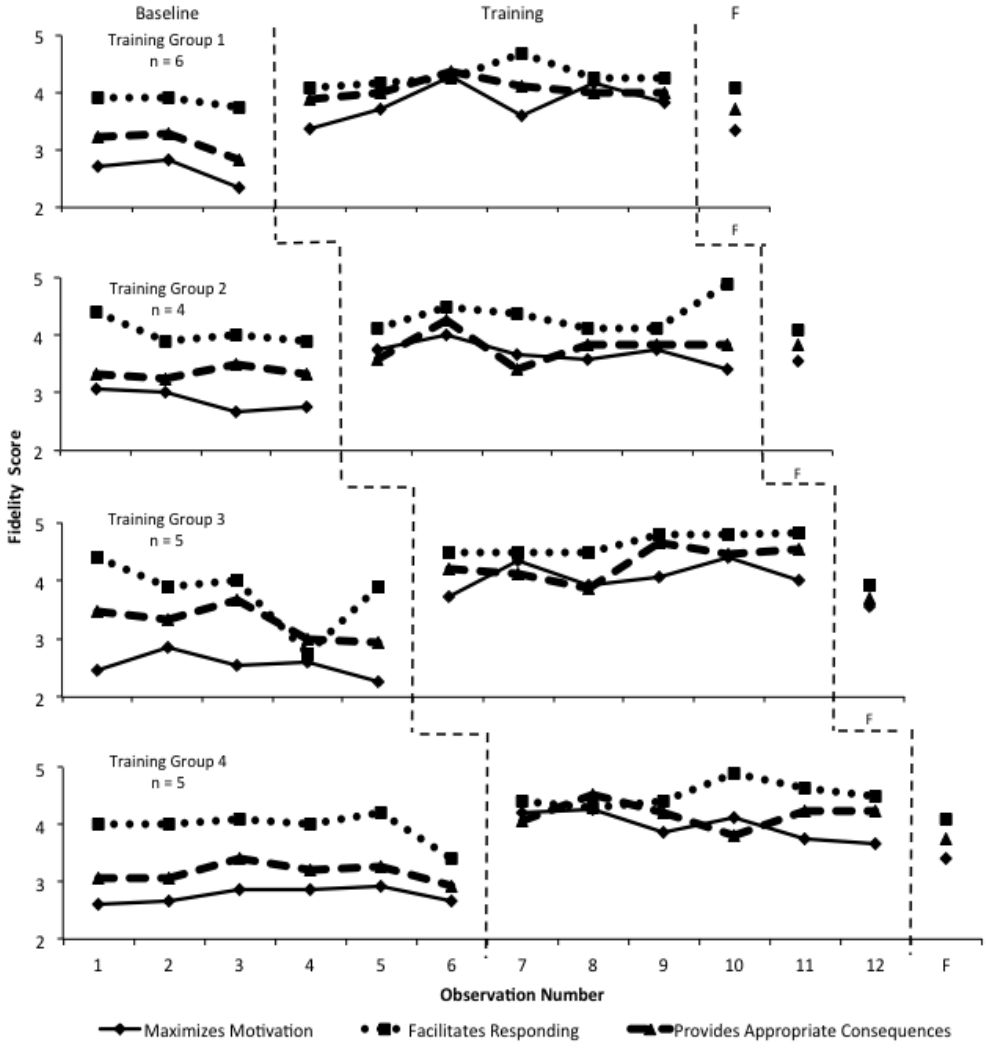
Results

Teacher Fidelity of Implementation

Data for each training group were average across teacher and component type because of similarity in the data and for clarity of presentation and visual examination (see Figure 1). Components were grouped and averaged by *Maximizes Motivation* (child choice, turn taking, easy and difficult tasks), *Facilitates Responding* (student attention, clear cues), and *Provides Appropriate Consequences* (contingent consequences, direct reinforcement, reinforcement of attempts). Because only 3% of students had difficulty responding to simple conditional discrimination, use of responsivity to multiple cues was not examined. Baseline data consisted of 3-6 sessions (1.5-3 weeks). Baseline data was relatively stable for all groups and CPRT component groups. Training Group 3 had very low use of *Facilitates Responding* during session 4, however session 5 remained lower than any other prior sessions, indicating a stable baseline. On average, during baseline, all groups used *Facilitates Responding* components with high levels of competence ($M = 3.96$). On average, teachers were not meeting fidelity of implementation standards in the other two areas, but were more successful using components of *Provides Appropriate Consequences* ($M = 3.23$) and had the greatest difficulty using *Maximizes*

Motivation ($M = 2.70$) components.

Figure 1. Figure 1 depicts teachers' fidelity across phases. Each Training Group indicates fidelity data averaged across teachers and component areas. On the X axis is the observation number and on the Y axis is the average score that teachers received. The final point on the X axis in each graph represents follow-up, which happened after 2 months. Note that the Y axis starts at 2 for ease of visualization, as no averages were below 2.



Summary of Fidelity Scores for CPRT Components Post Training (after Training Week 4)

CPRT Component	Overall *M* (SD)	Group *M* (SD)	One-on-One *M* (SD)	% passing at least once	% passing at least twice
Overall Fidelity	4.12 (.54)	4.05 (.55)	4.22 (.51)	100	100
		Maximizes Motivation			
Student Choice	3.99 (1.15)	3.86 (1.20)	4.18 (1.11)	100	85
Takes Turns	3.51 (1.22)	3.41 (1.34)	3.54 (1.07)	100	75
Maintenance/ Acquisition Tasks	4.37 (.74)	4.39 (.77)	4.39 (.70)	100	90
		Facilitates Responding			
Gains Attention	4.31 (.72)	4.26 (.75)	4.38 (.70)	100	95
Clear Cues	4.65 (.52)	4.63 (.52)	4.69 (.51)	100	100
		Provides Appropriate Consequences			
Contingent Consequences	4.22 (.70)	4.17 (.66)	4.31 (.74)	100	90
Direct Reinforcement	3.70 (1.24)	3.58 (1.34)	3.82 (1.15)	100	75
Reinforces Attempts	4.41 (.77)	4.44 (.71)	4.43 (.79)	100	95

A second coder double-scored 32% of the video observations (n = 86) distributed equally across all phases to assess reliability of data coding for fidelity of implementation. Consistency intraclass correlation coefficients (ICC) for single rater scores were in the 'Good' range for all components except contingency and reinforces attempts, which were both within the fair range (Cicchetti, 1994). Exact ICCs are as follows: Gain attention, *ICC* = .79; Clear instructions, *ICC* = .76; Maintenance/acquisition tasks; *ICC* = .67; Child choice, *ICC* = .71, Turn taking, *ICC* = .72; Contingent consequences, *ICC* = .54; Direct reinforcement, *ICC* = .72; and Rewarding attempts, *ICC* = .58.

Report of Use

Thirteen of the 20 teachers (65%) completed the report of use survey at least one time after training began. The mean number of reports completed was 4.23, with a range of 1–9. Reports

were distributed across the training period. Teachers reported using CPRT in 70% of reports (range = 0-100%) overall. Eight (62%) reported using CPRT in 80%-100% of reports, and three (23%) included CPRT in 20%-67% of reports. For these teachers, CPRT use began towards the end of training and continued in all subsequent reports. Two teachers (15%) did not report using CPRT at all. These teachers had very structured classrooms and reported using only discrete trial training (DTT) and Treatment and Education of Autistic and Related Communication-handicapped Children (TEACCH) strategies on all reports. For teachers who reported using CPRT, the average number of days per week they reported using the strategy was 3.88 (range = 1-5). The average number of minutes per day using CPRT reported across all of these reports was 47.37 (range = 0-300).

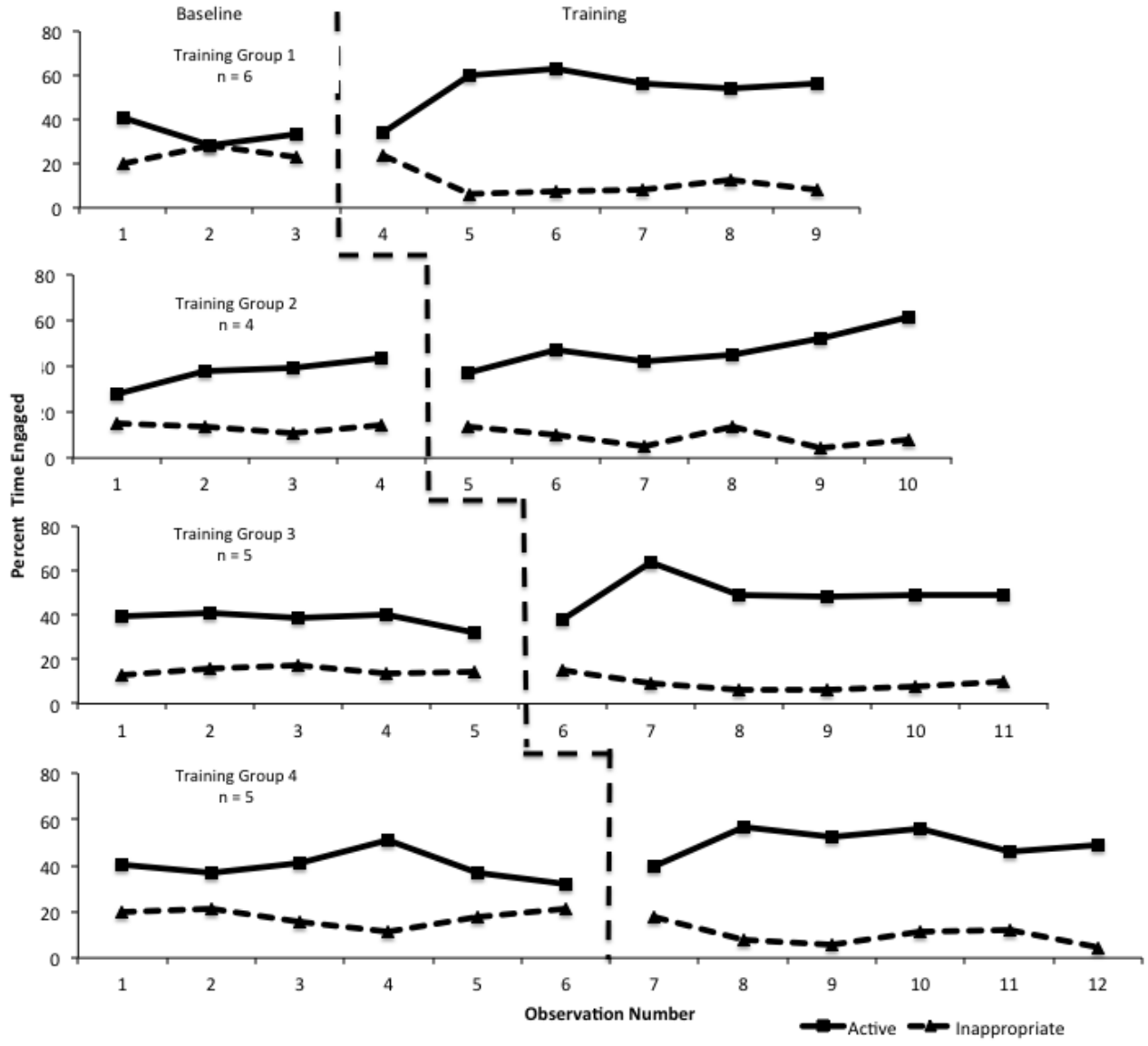
Teacher Satisfaction

In general, the 17 teachers (85%) who completed the satisfaction survey were very satisfied with all aspects of CPRT training, materials and procedures with an overall satisfaction rating of 4.68 out of 5 (see Table 3). There were no ratings lower than 3 in any area. Teachers were most satisfied with the trainers' ability to answer questions about CPRT (4.94), and least satisfied with their own ability to implement CPRT with their students (4.18) and classroom video recordings conducted for research (4.24). Eighty-two percent of teachers reported that they were still using CPRT at follow-up, however only 18% were using data collection materials.

Student Engagement

Active student engagement was coded for each of the recorded sessions during baseline and intervention (see Figure 2). Data are collapsed across students in each intervention group for ease of viewing. Baselines were relatively stable for all groups except group 2, which had an ascending baseline for active engagement. Overall active engagement averaged 37% at baseline, 50% across all treatment sessions, and 54% if only the final two treatment sessions are examined. The PEM was calculated for active engagement for each group with an overall PEM of .92 and a range of .83 (groups 2 and 3) and 1.0 (groups 1 and 4). The PEM was calculated for inappropriate engagement for each group with an overall PEM of .92 and a range of .83 (groups 1 and 3) and 1.0 (groups 2 and 4). These data would suggest that CPRT was moderately to highly effective for improving active student engagement and reducing disruptive behavior.

Figure 2. Figure 2 depicts students' active and inappropriate engagement in learning activities across phases. Each training group indicates data averaged across students and teachers for that group.



A second coder double-scored 31% of the video observations (n = 132) across all phases to assess reliability of data coding for student engagement. Percentage of engagement in all six categories was examined using consistency intra-class correlation coefficients for single ratings. All ICCs were in the 'Good' range, with the exception of Object Engagement, which was in the 'Fair' range (Cicchetti, 1994). Exact ICCs for each engagement category are as follows: Active, *ICC* = .61; Passive, *ICC* = .66; Waiting, *ICC* = .67; Object, *ICC* = .49, Peer, *ICC* = .71, and Inappropriate, *ICC* = .54.

Discussion

This project provides a preliminary examination of the use of Classroom Pivotal Response Teaching (CPRT), adapted in collaboration with teachers from the evidence-based practice, Pivotal Response Training (PRT), for use in public special education settings. Overall, teachers learned the strategies after a relatively brief training period that included coaching, were very satisfied with the training and materials, and affected some change in student engagement. This provides preliminary evidence for the benefits of use of CPRT in classrooms.

When examining teacher use of specific CPRT components in comparison to teachers participating in previous PRT studies (e.g., Suhrheinrich et al., 2013), these teachers had higher fidelity overall than clinically trained teachers, and slightly lower fidelity than researcher trained teachers. When looking at performance during one-on-one sessions only, the teachers in this study performed more similarly to the researcher trained teachers, except in the area of direct reinforcement, where they had some difficulty. Fifty-nine percent of teachers in the current study used CPRT during group activities and continued to meet fidelity standards. Prior teacher reports have been that using PRT strategies in a group is more challenging, however many teachers were able to implement CPRT in groups with fidelity in the current study. There were few differences in teacher demographics across groups, with teachers in Group 1 having higher age, less education and greater PRT familiarity than the other groups. Teachers in Group 4 were more likely to be teaching elementary school and had more ASD experience. Teachers in Group 2 had the lowest level of PRT familiarity. However, these differences did not seem to affect PRT skill level at baseline or after training, as the groups were relatively similar. However, limited PRT familiarity may have been associated with less maintenance of skills at follow up. Although teachers in the current study continued to have some difficulty with the turn-taking component, they performed better than previously trained groups (Suhrheinrich et al., 2013). Anecdotally, teachers suggested that because improving peer social interactions is often a goal when they are using CPRT in groups, fidelity measures should include teacher facilitation of modeling and turn taking between students (rather than simply turns with the teacher). This is excellent feedback for future examinations of CPRT.

There is some evidence to indicate that teachers need practice over time to increase fidelity of implementation in complex models such as CPRT (Codding, Livanis, Pace, & Vaca, 2008; Joyce & Showers, 2002). In fact, in an examination of the use of PRT in one-on-one settings in classrooms, teachers had difficulty implementing PRT in the first year of training but increased their fidelity in the second year (Stahmer et al., 2015). In the current study, teachers were assessed relatively immediately following initial training. In some cases, they did have difficulty using some strategies at follow-up when no additional training was provided. It is possible that

with ongoing coaching and practice, further integration into classroom activities and increased fidelity of implementation over time may occur. Our findings support recommendations that in-service teacher training which incorporates a combination of didactic training and coaching is needed for high fidelity in complex teaching methods (National Advisory Mental Health Council, 2001; Odom, 2009). There is evidence that effective training includes opportunities to practice skills while receiving feedback as well as ongoing coaching with feedback (Cordingley, Bell, Isham, Evans, & Firth, 2007; Cornett & Knight, 2008; Reid, Parsons, & Green, 1989; Scheuermann, Webber, Boutot, & Goodwin, 2003). Teachers in this study received both opportunities to practice and ongoing coaching, and they were able to reach acceptable levels of fidelity of implementation (at least 80% correct use) in most areas.

Although student outcomes were not the focus of the current study, we did see a slight increase in student engagement and decreases in disruptive behavior when teachers began using CPRT. Because the activities and child goals remained consistent and changes were commensurate with training in each group with varying baselines, we can make a preliminary suggestion that improvements were related to the CPRT strategies rather than simply maturation or familiarity with the activity. Our measurement of engagement is similar to that of other studies which define engagement as time on-task, time on-schedule, and appropriate interaction with learning materials (Bryan & Gast, 2000; Hume & Odom, 2007; MacDuff, Krantz, & McClannahan, 1993; Pelios, MacDuff, & Axelrod, 2003). It is a limitation that we did not assess student progress toward goals or specific gains in communication or academic skills. However, student engagement has been associated with increased skill acquisition and participation (National Advisory Mental Health Council, 2001; Iovanne, Dunlap, Huber, & Kincaid, 2003; Klem & Connell, 2004; Pelios et al., 2003). Future research should examine the relationship between engagement and fidelity of CPRT as a whole, as well as specific components of CPRT.

Limitations

Of course, there are several limitations to this project that may limit the generalization of the results and provide suggestions for future projects. This was a small scale study in which the research team provided training to local teachers. Due to the community nature of the study, baselines were staggered based on time and stability of initial observations. Additionally, providing training on a larger scale with CPRT trainers who are not researchers will be important to understand the feasibility and generalization of the protocol.

Future Research

Additional study is needed regarding the CPRT components that were altered. Most students in the study did not have difficulty with conditional discrimination, therefore use of this component was not examined in this project and feasibility of using the component for students with poor responsivity to multiple cues needs to be examined. In addition, measurement of the use of varied cues was not conducted as part of this study, but may end up being an important component for generalization of behavior change for children with autism.

Examination of the clear relationship between student learning and teacher use of CPRT components is a next step in this type of research. In addition, understanding more about the broader context in the implementation of evidence-based practices such as CPRT in schools is important. For example, administrative support for teacher training, presence of a specialist who can assist with ongoing coaching, teacher education, training and staffing in the classroom may

all affect fidelity of implementation of any intervention. Additional research is needed to clarify the prerequisite skills and supports needed for effective implementation of such practices.

Acknowledgements

This grant was supported by U.S. Department of Education Grant: R324B070027 *Translating Pivotal Response Training into Classroom Environments*. The authors would like to thank our advisory board Cynthia Bolduc, Catherine Pope, Thesa Jolly, Patricia Belden, Linda Reeve and Lauren Ungar for their tireless work on the adaptation of CPRT for teachers and Dr. Laura Schreibman for her many ongoing contributions to this work and Dr. Laura Hall for contributions to the development of the adapted program manual.

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Principals and Teachers' Attitudes Towards Inclusion in Israel

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Abstract

The main goal of this study was to determine whether, in schools that practice inclusion, there is a correlation between the attitudes of school principals and teachers in their schools, towards inclusion of student with special needs. For this purpose, 38 schools were sampled in each of which the school principal and five teachers who work with students from the school's inclusion program – were to respond to questionnaires about their attitudes towards inclusion. A total of 38 school principals and 195 teachers participated in this study. In addition, the principals were asked to describe their management styles concerning the inclusion of students with special needs. The teachers also completed questionnaires about the school climate. The main findings indicated that principals' positive attitudes towards inclusion were associated with teachers' positive attitudes. In addition, a correlation was found between styles of management that support inclusion (such as support for changes to adapt the school for inclusion) and teachers' perceptions of a positive school climate.

Principals and Teachers' Attitudes Towards Inclusion in Israel

Educational researchers from the1980s examined three inter-related issues that were of concern to educators at that time: adaptation of the organizational climate approach to the realm of education; shifting the school principal's role from administrator to educational leader; and the gradual inclusion of students with special needs in the general school classrooms. One of the premises of the current study is that the current state of affairs is largely an outcome of educational policy that emerged in light of those three issues and how they were interrelated by one another.

The inclusion of students with special needs in regular schools

Since their establishment, special schools and special classes have made a highly significant contribution to the education of children with special educational needs. Teachers in special schools have gained considerable experience and have often developed a high level of expertise in meeting the special educational needs of their students. However, one consequence of the formation of a system of special schools and special classes was the emergence of a special education system that operated largely, at both the primary and the post-primary level, in segregation from the ordinary school structure. Conventional primary and post-primary schools were not regarded as realistic or practical scenery for these children.

In Israel, the inclusion of students with special needs in preschool programs, as well as elementary schools, high schools and universities was dramatically changed since by the Special Education Act (2003) which emphasizes the importance of the efforts that professionals and principals should commit to in order to promote successful inclusion (Dorner, 2009). Yet, there have not been many studies that investigated empirically and systematically the principals' attitudes toward the inclusion and their effect on the staff (Timor & Avisar, 2011).

School Climate & management approach towards inclusion

The term School Climate developed from an ecological approach that analyzed and described a particular social environment (workplace, organization, or institute) and its influence on the behavior and functioning of the people within this environment (Anderson, 1982; Cohen et al., 2009; Moos, 1974; Tagiuri, 1968). The underlying assumption is that every social environment has particular characteristics that can be identified and measured (Creemers, & Reezigt, 1999; Halpin & Croft, 1963; Purkey & Smith, 1983; see also: The definition of School Climate by the National School Climate Council, 2007). Many studies on school climate identify and measure the elements that have impact on teachers' perceptions of experiences in school life (Avramidis & Norwich, 2002; Beets et al., 2008; Collinson & Cook, 2007; Freiberg, 1999; Hargreaves, 1994; Hess & Reiter, 2010; Singh & Billingsley, 1998). Other studies identify factors related to students' psychological, social, and academic adjustment, from kindergarten (Ladd, Birch & Buhs, 1999; Payton, et al., 2008) through high school (Battistich, Schaps & Wilson, 2004; Blum, McNeely, & Rinehart, 2002; Jia et al., 2009; Hess, 2010; Rutter, 1983; Ruus et al., 2007).

In Israel, Zack and Horowitz (1985) found that teachers' perceptions of the school climate is related to their perception of principal's functioning, in terms of the degree of emphasis on scholastic achievement, adherence to regulations, consideration for teachers' personal needs, and the ability to serve as a role model, (ibid, pp 20-36). Similar findings were found eighteen years later (Avissar, Reiter, & Leyser, 2003) in a survey that investigated the role of elementary school principals in successful inclusion of students with special needs in the general schools. The researchers concluded that the principal is in fact the dominant influence in forming the school climate.

Additional studies indicated that principals' roles began to undergo a change from a centrist and administrative function to that of collaborator (Beattie, Jordan & Algozzine, 2006; Blase & Blase, 1996; Boscardin, 2005; Edgemon, Jablonski & Lloyd, 2006; Goor, Farling, Addison, 2007; Oluwole, 2009; Simmons, 2007). These studies demonstrated that principals who share decision-making processes with colleagues (Boscardin, 2005; Edgemon et al., 2006), grant educators the autonomy they require (Goor et al., 2007), allocate responsibilities (Brotherson et al., 2001), and in fact, act as an educational leader providing formative leadership (Blase & Blase, 1996; Begley, 2008; Bredeson, 1989; Fiedler & House, 1988). According to the professional literature, such leadership is a style of management characterized as cultivating an educational vision and defining goals, demonstrating consideration towards teachers and students (Avissar et al., 2003), and offering personal support to employees (Armenakis, Harris, & Mossholder, 1993; Bredeson, 1989; House & Podsakoff, 1988; Lumby & Tomlinson, 2000; Locke & Latham, 1990; Simmons, 2007; Yammarino & Naughton,1992). Nevertheless, it appears that the two components of formative leadership that are commonly mentioned in the literature on educational inclusion are embracing change and educational enterprise (Brotherson,

2001; Fink & Resnick, 2001; Fullan, 2001; Goor et al., 2007; Williams, 2001). According to the amendment in the Israel law of Special Education (2002), professionals who support students with special needs should make an effort to enhance the inclusion of these students in the general educational system. In this study, we use the term "Inclusion" to mean the integration of students with special needs into the regular classrooms, (Fuchs & Fuchs, 1994; Reiter, 2008)

Much of the empirical evidence demonstrates that the theory underlying the advancement of educational inclusion is associated with an educational management style that promotes a climate in which organizational change and educational initiatives are encouraged (Brotherson, 2001; Fink & Resnick, 2001; Fullan, 2001; Somech, 2006; Rouse & Florian, 1996; Timor & Avisar, 2011; Wasburn-Moses, 2005; Williams, 2001).

The fact that literature dealing with the description of principals' initiatives during the last decades in many cases, also dealing with inclusion, is not coincidental.
The inclusion of students with special needs in the general schools is one of the dramatic changes that has occurred in the field of education in recent decades (Ainscow, 1999; Avramidis & Norwich, 2002; Brotherson, 2001; Fuchs & Fuchs, 1994; Reiter, 2008) as well as the inclusion of students from minorities into the mainstream schools (Abbott, 2006) and universities (Morrison, 2010) and into the wider community (Abbott, Dunn & Morgan, 1999).
The correlation between the principal's educational approach and image on the one hand, and the school climate and the teachers' approach to and belief in inclusion on the other hand has also been identified in the literature of the last three decades (Beattie et al., 2006; Mamlin, 1999; ; Dror & Weisel, 2003; Fritz & Miller, 1995). Blackman (1989) found a correlation between a principal's management style that encourages cooperation among employees, and the academic success of the student population. Parker & Day (1997) concluded that for inclusion to be successful, the principal should continually encourage teachers and embrace their successes in this area. This will lead to a positive school climate. Avissar et al. (2003) claim that it is necessary to overcome the attitudinal barriers of the teachers that can negatively impact the success of inclusion (Avissar et al. 2003). These conclusions are well accepted within other studies dealing with principals' roles and perceptions and the success in the inclusion of students with special needs into general schools (Ainscow, 2000; Fullan, 2001; Wood, 1998).

Method

The current study presents an analysis of the reports of principals and teachers regarding the inclusion of students with special needs in general, mainstream schools.

The aim of the current study was to consider a correlation between the attitudes of school principals and those of their teachers towards inclusion of students with special needs, as well as between principals' style of management related to the issues of inclusion and the teachers' perceptions of the school climate.

Study Hypotheses

The central hypothesis was that positive correlation would be found between the attitudes of principals and those of their teachers, towards the inclusion of students with special needs, in

such a manner that the more supportive the principals' attitudes towards inclusion were, the more highly supportive the teachers' attitudes towards inclusion would be.

A second hypothesis suggests that a correlation would be found between management styles and the teachers' perceptions of school climate in such a manner that the management style which supports inclusion would be positively correlated with teachers' perceptions of a positive school climate.

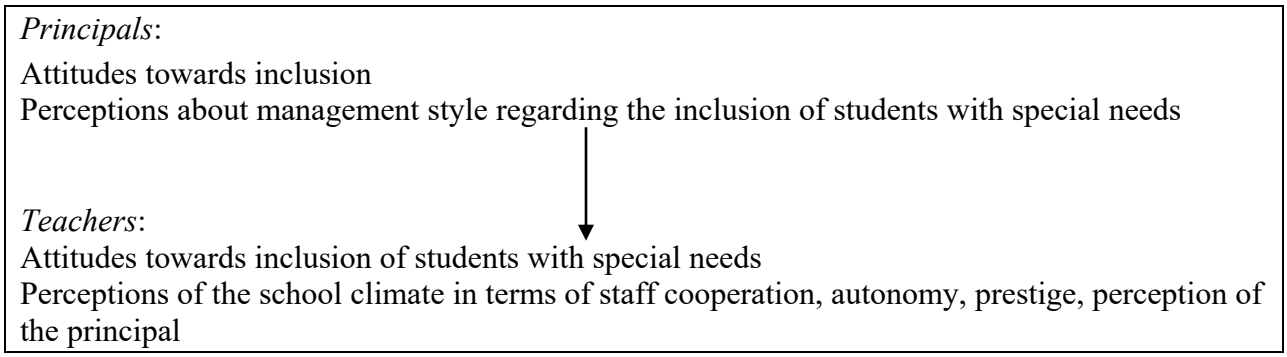

Figure 1 Research Model as a diagram of a correlation between principals' attitudes toward inclusion plus their perceptions about management style and the teachers' attitudes toward inclusion plus their perception of the school climate.
Note: Arrow shows the expected direction of the correlation

The Sampling

The sampling frame consisted of a list of 1100 schools that included one or more students with special needs.

This list included high schools, in which the students were between the ages of 12 and 18. All of the schools were in the Jewish sector – State and State Religious schools. The list was lacking information regarding the number of teachers in each school.

The research design followed the budget opportunities, allowing for data gathering from 40 schools, situated in various districts in Israel. Of those 40 schools, 38 obtained the principals' consent to participate in the research based on stratified sample procedure. The final sample included 38 schools as follows: 9 schools in the southern district, 5 schools in the Jerusalem district, 7 schools in the Tel Aviv district, 6 in the center (excluding Tel Aviv), 6 in Haifa and 5 in the northern district (excluding Haifa) .The orthodox sector was not included in this study due to the lack of information regarding inclusion of children with special needs in this sector and as a result, the lack of data regarding practical inclusion of these students in the schools.

We preferred to avoid studying inclusion of children with special needs in elementary schools, due to sensitivity on the part of the officials who approve studies in elementary schools, especially as pertaining to the topic of inclusion.

The Arab sector was not included in the study in order to avoid the need of factoring language and culture variables into the study model. Including these variables such as these in this study

model, would have placed the clarity and validity of the study at risk of pressure, the resolution of which would have exceeded the scope of this study.

The sampling of principals consisted of 38 principals of schools selected from the aforementioned list.

The teachers' sampling included a total of 195 staff members, i.e., five from each of the 38 schools: All five of the sampled staff members worked directly with students in the school's inclusion program.

The teachers, who participated in the sampling in each school, were volunteers. Care was taken to find one volunteer who was a homeroom teacher, and an additional volunteer who was a school counselor. Of the total sampling of teachers, the number of teachers who asserted they had an academic background in special education was low - 28, so this variable was not included in the analysis of the findings. Nor was information regarding the teachers' personal background s, age and socioeconomic status factored into the analysis of the findings.

Research Tools

The tools for examining the teachers' attitudes towards inclusion of students with special needs: a questionnaire which was based on that devised by Shechtman, Reiter & Schenin (1993). The latter was also used by Dror & Weisel (2003), and both they and the author of this study, found a single consolidating dimension: general attitudes towards inclusion. As in previous studies, *Cronbach's alpha* for the current study was .95.

The questionnaire consisted of 28 statements for and against inclusion of students with special needs in the school. The teacher was asked assess each statement with a score between 1 and 5. Statements that were formulated as arguments against inclusion, had been inverted. Finally, an overall aggregate for the questionnaire was calculated, between 1 – against inclusion and 5 – in favor of inclusion.

An example of a statement: "Inclusion improves the self-image of students in the inclusion program"

The tool for examining the teachers' perception of their School Climate - a questionnaire based on Halpin & Croft's (1963) questionnaire on The Organizational Climate of Schools, which was then translated into Hebrew and further developed by Zack & Horowitz (1985). The original Hebrew version was validated in order to provide a comprehensive view of the School Climate. The following eight dimensions were found: the principal's supportive leadership; school services; adoption of innovations; collaboration and cooperation among the teaching staff; teaching load; autonomy; and prestige. A high validity rate was reported for these dimensions, with *Cronbach's alpha* ranging between .70 and .90 (Dror & Weisel, 2003). A high measure of *Cronbach's alpha* was reported also in the current study, ranging between .85 and .9.

There were a total of 47 statements comprised of the eight climate dimensions. With regards to each statement, the teacher had to decide between 1 – I disagree and 5–I agree fully. Each teacher was given an average score for the statements of each dimension of the questionnaire,

from 1-to 5. The higher the score was, the higher the value of the dimension. In addition, each teacher was given an overall score for climate perception. This score was based on statements from each of the eight dimensions that were entered under one factor in the analysis of the imposed factor. The general score is also an average of 1-to 5, so that the higher the score, the more positive the teacher's perception of the climate. An example of an item under the dimension of the principal's supportive leadership: "The principal of the school drives innovation". An example of an item under the dimension of the sense of autonomy at the school: "I decide the pace of the work and how much of the curriculum can be completed".

The Principal's questionnaire: The questionnaire based on a scale for examination of the principals' attitude towards inclusion- included a questionnaire developed by the author, based on a scale suggested by Oluwole (2009) in order to examine principals' attitudes to inclusion. The Index consists of 7 items. For each item, the principal must mark the measure of his concurrence – from 1 – I disagree to 3 – I agree. The total score of support for inclusion was based on the average score of the 7 items. The higher the score, the stronger the principal's support of inclusion. *Cronbach's alpha* for the 7 items was .73. An example of an item: "To what degree to you see inclusion as positive for students who do not have special needs?".

The questionnaire also includes 15 items that support three different styles of management. The questionnaire was drafted to Hebrew by the author and its content was validated by 2 other specialists from the field. The score per item is between 1 and 3. The score for each style of management was the average score given to its five items. The higher the score, that is, the closer it is to 3, the more the principal is considered supportive of this style of management. The management styles that were presented:

The importance attributed by the principal to centralized management (*Cronbach's alpha* = .7). An example: "To what degree does inclusion require more supervision of the teachers' work?" The principal's support for change (*Cronbach's alpha* = .77). An example: "Is it your opinion that inclusion of students requires a great deal of change in the school curriculum and/or in the school plans"?

The principal who is motivated to drive the prestige of the school (*Cronbach's alpha* =.62). An example: In your opinion, are the school's resources sufficient for the achievement of the goals of inclusion?"

Research Procedure

Subsequent to the Ministry of Education's approval of the research plan and procedure, individual meetings were held with the principals, at which time they were asked to fill out the pertinent questionnaires.

At the beginning of the meeting, the researcher shared the concept and goals of the study with the principal. After clarifications were made in answer to the principal's queries, the principal was given the questionnaire to fill in. The researcher was present during the principal's completion of the questionnaire, amongst other reasons, in order to reply to any queries on the spot. The principal obtained anonymity and exclusion of all identifying details. The meeting with the principals usually lasted about half an hour.

Following the interviews with the principals, the next stage was locating and finding teachers for the study. The assistant researcher selected the teachers (five at each school) by visiting the teacher's lounge and by chance conversations around the school. The first five teachers found suitable for the study, that is, who were associated with at least one child with special needs, and who agreed to participate in the study, were given the questionnaire regarding their approach to inclusion and the questionnaire regarding their perception of the School Climate. The teachers were instructed on how to fill in the questionnaires. They were ensured anonymity and exclusion of personal details. The teachers were requested to submit the questionnaires only to the research assistant on the agreed date. In fact, sometimes the assistant researcher visited the school a number of times before he was given the questionnaires.

When the study had 38 principals from 38 different schools, and all the questionnaires were handed in by the teachers of those schools, it was decided to discontinue data collection and begin analysis of the findings.

Results

A multiple regression analysis was conducted in order to test the study hypothesis, which claimed that there would be a correlation between principals' attitudes towards the inclusion of students with special needs and related management issues and the attitudes of the educational staff towards inclusion and their perceptions of the school climate. The multiple regression equation was intended to predict the attitudes of teachers towards inclusion based on the principal's management patterns. The first stage tested the correlation between the explained variables, i.e., the management patterns. For this purpose, the method which was used in order to reveal significant correlation, was Enter. The prediction equation was calculated as shown in Table 1.

Table 1

Multiple Regression Model with management patterns as predictors for teachers' positive assessment of inclusion program (N=38)

Variable	*B*	*SE*	*Beta*	*t(p)*	*Eta*^{2}
The importance attributed by the principal to centralized management	.12	.04	.37	3.40**	.063
The principal's support for change	.13	.08	.19	1.71	.012
School prestige related patterns and satisfaction with school's economic status	.14	.03	.49	4.70**	.071

Note: The results of the regression indicated that the predictors explained 40.1% of the variance (R^2=.4, $F_{(3,56)}$=12.50, p<.01).
**p<.05; **p<.01*

Findings presented in Table 1 indicate that the variables that most significantly contribute to a prediction of teachers' positive attitudes to inclusion are as follows: the degree of importance that the principal attributes to centralized management *(t*=3.4, *p*<.01), and the principal's who is motivated to drive prestige *(t*=4.7, *p*<.01). It should be noted that on the whole, the model

explains 40% ($F_{(3, 56)}$=12.5; p<.01) of the variance in the dependent variable (i.e., teachers' positive assessment of the inclusion program).

To examine the hypothesis that principal's attitudes towards inclusion are correlated to the educational staff's perception of the school climate, we tested the correlation between factors from the principal's questionnaire that had reflected the principal's attitudes towards the inclusion and factors that emerged from the school climate questionnaires (which, as noted, reflect the teachers' perceptions of the school's climate). The findings of the correlation analysis, summarized and presented in Table 2, were the outcome obtained following several statistical procedures required for the multi-variant analysis. For a detailed description of these procedures and clarifications regarding the relevant methodological issues, see the article dedicated to this purpose (Hess & Reiter, 2009).

Table 2

*Pearson's correlation measures found between variables from principals' attitudes questionnaires and variables from school climate questionnaires (*N=*38)*

	Variables from principals' attitudes questionnaires				
	Perception of principal as supportive and encouraging	Inclusion-related innovativeness	Sense of cooperation among staff	Sense of work autonomy	Sense of prestige at work
Variables from school climate questionnaires					
Principal's sense of own centralized management pattern	.27*	.1 N.S	.12 N.S	.09 N.S	.11 N.S
Support for change	.20 N.S	.30*	.12 N.S	.15 N.S	.13 N.S
Support for inclusion	.17 N.S	.11 N.S	.32*	.18 N.S	.17 N.S
Satisfaction with teachers' work autonomy	.15 N.S	.14 N.S	.14 N.S	.31*	.09 N.S
Sense of prestige due to inclusion	.18 N.S	.2 N.S	.13 N.S	.12 N.S	.25*

Note: N.S= Not Significant

**p*

Findings presented in Table 2 indicate that the importance that the school principal attributes to centralized management is related to teachers' perception of the principal as supportive and encouraging (r=.27, p<.05). The principal's support of change was found to be related to teachers' perceptions that inclusion leads to innovativeness (r=.30, p<.05). The principal's support of the inclusion of students with special needs was shown as related to teachers' perception of cooperation among the school's staff (r=.32, p<.05). The principal's satisfaction with teachers' work in an autonomous framework is related to the teacher's sense of having

autonomy in their job (r=.31, p<.05). Finally, the principal's sense of increased school prestige due to the inclusion program was found to be related to the teachers' perceptions of the school's prestige (r=.25, p<.05).

Discussion and Conclusions

In general, the current study replicated the finding of major tendencies identified in previous studies examining management patterns and school climate at inclusive schools. Results demonstrated the great extent to which principals' perceptions correlate with employees' perceptions about inclusion: correlations were found in attitudes towards inclusion, the importance of teachers' autonomy, belief in processes of change, and the belief that the school's prestige is related to the success of the inclusion program.

However, findings of the current study highlighted one particular tendency that is less prominent in the traditional professional literature on school management research. Thus, the research literature most often presents views that consider the variety of management patterns as located on a continuum between two opposing styles, such as "task-oriented management" vs. "people-oriented management" (Staw & Salancick, 1977), or "takes direct action" vs. "cooperative" (Somech, 2006). In contrast, the current study found that the principals' management pattern is a multi-dimensional construct. Findings indicated that the management style of principals that best correlates with teachers' positive attitudes towards inclusion is characterized by attributes that could be considered simultaneously contradictory and complementary. Thus, a principal demonstrating a pattern of centralized management supports teachers' autonomy, cooperates with the staff, and invests time and effort to adapt curricula to the assist students with special needs. A principal who thus supports the inclusion program and its implementation considers the inclusion program prestigious. In addition, were such a principal to favor a centralized management style yet avoid criticism of the staff and instead find satisfaction in the teachers' efforts, such a principle would be said to demonstrate "formative leadership."

The findings of this study have theoretical and practical implications for improving the success of the inclusion of students with special needs in schools. The majority of the Educational system's programs for increasing awareness and increasing their positive attitude towards this containment have so far been carried out by the teaching staff (Battistich et al., 2004; Payton, et al., 2008; Rieter, 2008).

However, the findings of this study indicate the necessity for empowering the principals first and foremost, and only then empowering the teaching staff. Today, there are those who believe that the adaptation and aid needed in order for the institution to increase success of the inclusion programs are the responsibility of the institution itself, and should not depend on the demands made by the students or their parents. (Hall, Meyer, & Rose, 2012). Furthermore, adoption of the ecological model into the field of education, has raised the principle, according to which the educational institution is obliged to prepare itself for the challenge of inclusion and the broad range of differences between students (Rose et al., 2009; Hall et al., 2012).

If we accept that the most important of all necessary adaptations is the training of the staffs' attitude towards inclusion, (for example Home, 2009), it may be that the correlation found

between the principals' attitudes and those of their staff, indicate that plans for the school's preparation for inclusion would best be developed by the principals themselves.

Limitations and future research

Two main methodological issues, which constitute possible limitations, were gradual receipt of the lists and lack of clarity regarding the scope of the complete sampling frame. These difficulties imposed a study procedure which might, to some extent, threaten the external validity of the study, since the sampling was, in fact, a volunteer sampling and not a random one (that is, not a probability sampling).

However, it should be noted that the rate of agreement of the schools that were approached to participate in this study, was high, and that the majority of school districts is represented. In addition, theoretically, no reason emerged to suggest that the schools which were sampled were different in any way or had any unusual background characteristics in comparison to most of the other schools in the sampling frame.

As shown, the current research model includes two levels: the principals' perceptions regarding the practice and management of including students with special needs and their teachers' attitudes to inclusion and their perception of the school climate. Nevertheless, according to the Quality of Life paradigm, when dealing with the inclusion of students with special needs we need also to listen to the students' own voices (Reiter, & Schalock, 2008). Therefore, the current study needs to be supplemented by focusing on students' quality of life. While the current report does not address this level in the model, previous studies have examined and described the correlation between students' QoL assessments and both the characteristics of school climate and attitudes towards inclusion (Hess & Reiter, 2009). The main findings from said studies demonstrated that in schools characterized by an open and democratic school climate as well as positive attitudes towards inclusion, there was a high correlation between QoL measures (in emotional, social and academic realms) reported by students and those reported by their teachers. Furthermore, these students felt less stigmatized than did their counterparts who attended schools with a closed climate and/or negative attitudes towards inclusion.

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